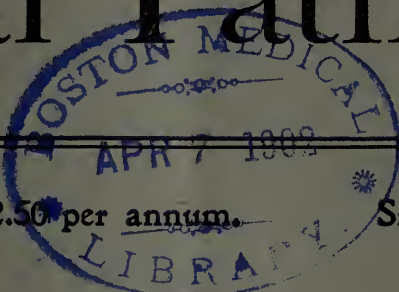




The Journal of Mental Pathology



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EDITED BY LOUISE G. ROBINOVITCH, B. ès L., M.D.

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THE JOURNAL OF MENTAL PATHOLOGY.

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No. 1.

THE RELATION OF THE HUMAN CRANIAL FORMS DURING FŒTAL DEVELOPMENT AND ADULT AGE.

BY PROF. G. SERGI.

University of Rome.

For the definition and classification of the cranial forms according to my morphological method, I have chosen the species which I denominate *Eurafrican*. This is a pentagonal form known as pentagonoïd (Fig. 1). Other principal and dominating forms of the same species are the ellipsoid (Fig. 2), and the ovoid (Fig. 3). From a study of fœtal and adult craniums I have found that the pentagonal is far more frequent in the fœtal than in the adult forms. This fact made me suspect that the pentagonal form in the human cranium is only transitory, disappearing as the cranium assumes the proper characteristics of adult age. In order to verify this suspicion, I made a series of studies of collections of human craniums, almost all of which were at full term. One collection was studied with my friend, Prof. Berte, at the University of Catania, and three other collections in Paris. Two of these latter are at the Museum of Comparative Anatomy, at the Jardin des Plantes, and the third in Broca's Anthropological Museum. The Italian collection counts forty-one craniums and the French seventy-eight, making in all 119. The age of the French craniums ranges between the second and the tenth fœtal months, or somewhat beyond the date of birth.

The following is a summary of the study of the forms:

Of the Italian collection, consisting of 41 craniums, almost all at full term, between 8 and 9 months, 33 are pentagonoïdal, or 80.49 per cent., and 8 are of various forms, as follows: 3 ellipsoid and 2 ovoid—in all 19.51 per cent.

The French collection of 78 craniums is composed of the following forms:

Pentagonoïdal, between the seventh month to full term—41, or 52.56 per cent.

Ovoïdal, between the seventh month and full term—6, or 7.69 per cent.

Ellipsoïd, idem—8, or 10.25 per cent.

Other forms; idem—3, or 3.87 per cent.

Ellipso-ovoïdal, below the seventh month—18, or 23.05 per cent.

Various forms, idem—2, or 2.56 per cent.

Total, 78; 100 per cent.

If we were to exclude the craniums below the age of seven months, for a reason which will be explained presently, we would have the following proportions:

Pentagonoïdal, seventh month to full term—41, or 70.69 per cent.

Various forms, seventh month to full term—17, or 17.29.31 per cent.

Total, 58; 100 per cent.

If, finally, all the series are united, with the exception of craniums under the seven months, the total of 99 craniums can be divided into:

Pentagonoïdal—74, or 74.74 per cent.

Various forms—25, or 25.25 per cent.

Total, 99; 100 per cent.

In other words, the craniums between the ages of seven months and full term are of pentagonoïdal form in the proportion of from 70 per cent. to 80 per cent. The adult craniums, on the contrary, as will be seen from the table of 1692 craniums, show 16.84 per cent. only of pentagonoïdal forms, and 83.15 per cent. of ellipso-ovoïdal; thus the proportion is inverted and shows that the pentagonoïdal form in the Eurafrian species is only transitory and is characteristic of the foetal state.

The cranial forms found in the various series may be thus classified:

- 1.—Acute oblong pentagonoïdal.
- 2.—Obtuse oblong pentagonoïdal.
- 3.—Broad pentagonoïdal.
- 4.—Ellipsoïd.
- 5.—Ovoïd.
- 6.—Broad, undefinable forms.

To these forms others could be added, but they have no special morphological significance.

The first category comprises the typical form, and is represented in Fig. 4; it shows an acute pentagonoïdal form with prom-

inent parietal protuberances, from which a gradual attenuation is seen in the frontal direction, thus forming a marked pentagon. A variety of such a pentagon is seen in Fig. 5. It shows an attenuated and oblong cranium, retaining the pentagonal form. The first I denominate acute foetal pentagonoid, and the second, attenuated foetal pentagonoid.

There are, besides, pentagonoid forms in which the parietal angles are round; this form I call obtuse foetal pentagonoid.

The third category of the pentagonoid is characterized by an abridgement of the anterior cranial part, which brings about a relatively diminished maximum width and antero-posterior length. I call this form broad pentagonoid (Fig. 6). A variety of this form is seen in Fig. 7. This figure represents cranium 136 of the Gall collection, No. 5560 of the collection in the Paris Museum of Comparative Anatomy.

The foetal ellipsoid (Fig. 8), and foetal ovoid (Fig. 9), are, by their forms, descriptive of themselves, the parietal angles being almost invisible.

The sixth category has no pentagonoid form, properly speaking. It has two types, which I call broad form, types "A" and "B." Both these broad forms seem to approach in shape the ellipsoid and ovoid. The type "A" (Fig. 10), differs from "B" (Fig. 11), in that "B" is in the process of assuming a definite cuneiform shape. This is seen in the sharpness of one extremity, and the maximum expansion of the parietals is nearer the posterior cranial quarter; thus, there is a maximum and gradual attenuation from behind forward, such as is seen in the form of a large wedge. Type "A," on the contrary, has its maximum width near the posterior third, or rather more forward, and is characterized by a definite curve tending towards an ellipse.

I call these varieties indefinite broad forms type "A" and "B," a collection of which exists in the Paris Museum of Comparative Anatomy. Those which I designate by the letter "C" are to be found in the Museum Broca, and those I designate by "I" are of the Italian collection.

From the individual study of 119 craniums contained in my table, it is seen that:

1—The pentagonal form does not appear before the seventh month of uterine life.

2—The ellipso-ovoid and other forms also show their angles from the seventh month to full term, without, however, giving the cranium a pentagonoid form.

3—Before the seventh month and the first appearance of ossification in the various cranial flat bones, I found a gradual forma-

tion of convexity, and then the appearance of protuberance, which became marked at the seventh month.

From the second month of uterine life one may observe the presence of a convexity in the cranial bones; this convexity augments with age, in the parietal frontal and occipital bones, when these become individualized. At that stage the acute pentagonoidal form appears, more or less marked or effaced, according to the type of the bone.

These facts show that the pentagonoidal cranial form is a formation of the latter part of foetal life, beginning with the seventh month.

With few exceptions, these pentagonal forms are not permanent, as was remarked before, when the individual reaches the adult stage. This fact is easily seen from a comparative table of the cases which I have designated by the letters "A," "B," "C" and "I," giving the numerical proportions of the cranial forms during uterine and adult age. This table shows the large proportion of the pentagonal form, beginning with the seventh uterine month. In these four series are found:

Pentagonoid—74, from the seventh month on.

Ovoid—I4, from the fourth month on.

Ellipsoid—23, from the second month on.

Various forms—8.

Total—I19.

In the statistical table below, I give the three principal cranial forms found among the various nations. Some of these forms are of the Eurafrican species, and the table shows how much the pentagonoidal form is reduced in the adult.

STATISTICAL TABLE OF ADULT CRANIUMS ACCORDING TO FORM.

	Ellipsoid.	Ovoid.	Pentagonoid.
Russian Kurgans (1).....	360	103	136
Russian cemetery XVI., Moscow (1) ..	13	5	13
Ancient Rome (2).....	27	27	15
Ancient Egypt (3).....	29	10	10
Abyssinia (3)	37	19	21
Wales (3)	—	—	5
Canary Islands (3)	4	1	3
Alfedena (4)	21	6	11
Ancient Sicily (5)	7	10	4
Aquileja (6)	15	8	4
Modern Rome (7)	44	3	4
Mediæval Rome (8)	9	—	15

Umbria (9)	32	29	2
Emiliana (10)	354	109	49
Venetia (11)	12	13	3
<hr/>			
Total	964	343	295
Grand total, 1,602	60.2%	21.4%	18.4%

Of the 1,602 craniums, there are only 295 absolutely pentagonoidal, or 18.4 per cent.; almost a sixth part among the ellipsoïd and ovoïd.

As I have said above, of the 90 craniums, between the seventh and tenth month, the pentagonoidal amount to 74.74 per cent., and the other forms to 25.26 per cent. Of the 1,602 adult craniums, the pentagonoidal amount to 18.4 per cent., and the ellipso-ovoïd to 81.6 per cent.

Now let us study the cause that determines the foetal pentagonoidal form. I believe that this cause must lie in the process of ossification.

It is generally admitted that every cranial osseous segment of membranous origin has its ossification point in the centre; so that in each of the two parietal and frontal bones which unite into one bone the first year after birth, and in the occipital, which appears as one bone at birth, there is such a centre. Thus, the membranous cranium has five ossification points, as is shown in Fig. 12, which has five eminences corresponding to five central points in every osseous segment of the cranium. Every central ossification point forms a focus, it is claimed, from which the ossification process extends marginally; hence, that point, or those points, must assume a mammillary eminence, so well marked in the parietal bones; for this reason the cranium assumes the pentagonoidal form in relation to the normal vertical line.

The ossification process is carried on in a different mode in the membranous cranium, however, in contradiction to what has been stated above. In the beginning, calcareous elements are scattered in the connective tissue; many scattered ossification points are formed over the membrane, without any order and without any indication of an ossification centre. These isolated points then come gradually in contact; they become united by a network, and the lacunæ of the latter become filled, in their turn, by new deposits of mineral salts, constituting, finally, a compact unit. Then, both the principal and accessory network, which have formed without any fixed rule, unite, and converge towards a central point in the bone in formation, which point slowly gains in consistency, uniting with all parts of the reticulum.

Then, some part of the coalescent mass assumes a major consistency as well as resistance; while the marginal parts tend to expand and dilate, the central point folds up into a cone of resistance and eventually assumes the mammillary form of the various osseous segments: the parietal, frontal and occipital. This takes place after the coalescence of their constituent parts, which develop separately during the process of ossification.

This explains the flatness of these bones during their formation. There can be no protuberance before there is coalescence of the network of the osseous reticulum,—before the latter has its central condensation and its expansion from the central point to the periphery. From my studies I conclude that the protuberances form after the fifth month of uterine life and reach their maximum after the seventh month. At that period the protuberances of the cranial osseous segments appear well defined and developed according to their respective types, as classified in the table.

Thus, it seems to me that the appearance of the pentagonal form after the seventh uterine month depends on the ossification which takes place through a significant mechanism. The five centres which correspond to the five eminences, as seen in Fig. 12, are formations depending on the ossification process, and not on the parting points or ossification centres. If, indeed, there existed primary ossification centres, the mammillary eminences would appear at the beginning of the ossification process; but we have seen that they appeared after the fifth month and were formed after the seventh only.

We must now find the process by which the pentagonoidal foetal form disappears during the growth after birth. We have seen, indeed, that in the adult craniums the pentagonoidal forms are reduced to a little over 18 per cent., a new form, more definite, becoming the characteristic of the adult cranium.

Those adult forms are ellipsoid and ovoid, on one hand, and spheroidal, cuneiform and platicephalic on the other.

This change of form depends on the growth of the brains and the corresponding cranial growth. After birth, especially during the first year, the brain increases in size considerably; the cranium must expand accordingly; as it increases in size its angles become rounded, assuming definite curves and greater uniformity, while the bones' structure condenses and thickens; hence, the cone of resistance becomes useless.

I thus explain the disappearance of the foetal pentagonoidal cranium, when it becomes an adult one, or while growing to become an adult one.

As for the 18 per cent. of the pentagonoidal adult craniums above

mentioned, whether persisting in this form or its modifications, such craniums present the characteristics which I call *infantile*, because craniums with these traits have not assumed the adult form, but, on the contrary, have retained one of the foetal traits, either in part or in whole.

Similar traits, when found in the pelvis, not only point to arrest in development, but also indicate that there is an absence of the sexual form.

In conclusion I would say that:

The pentagonoidal form of the foetal cranium predominates to a degree of from 70 to 80 per cent.

The ellipso-ovoïdal forms are rare, as are those with acute parietal angles.

The adult forms, ellipsoïd, ovoïd, and others, are transformations of the foetal pentagonoidal, which latter is a transitory form.

Among adult forms there are, however, pentagonoidal. These are incompletely transformed.

The adult pentagonoidal are infantile craniums.

The cause of the pentagonoidal form should be found in the ossification process of the cranial membranes; the formation of the protuberances or mammillary eminences which impart the shape of a pentagon begins at the fifth uterine month, and ends at the seventh.

The disappearance of the protuberances in the osseous segments and the appearance of the definite adult cranial form depends on the mechanical action of the cerebral growth within the cranium.

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Individual studies of 119 cases during foetal age, tabulated studies of the varieties designated by the letters "A," "B," "C" and "I," and a detailed catalogue of cranial forms and measurements appended to this paper are omitted in this publication.—*Ed.*

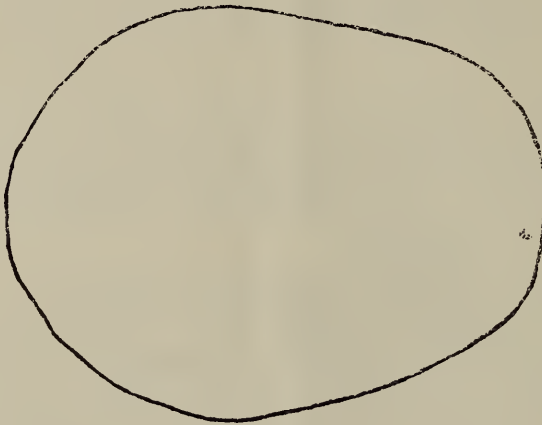


FIG. 3.
Ovoid.

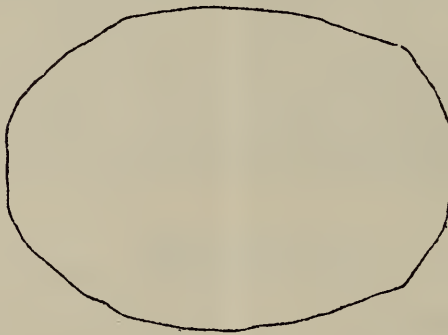


FIG. 2.
Ellipsoid (Etruscan).

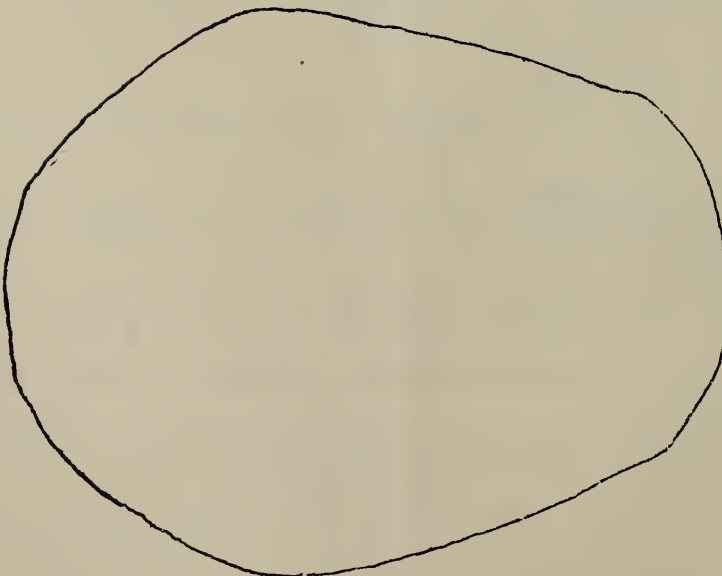


FIG. 1.
Acute Pentagonoidal (Italian Form).

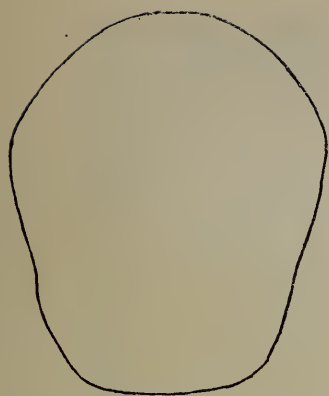


FIG. 4.
Acute Foetal Pentagonoidal.



FIG. 5.
Foetal Pentagonoidal.



FIG. 6.
Broad Foetal Pentagonoidal.



FIG. 7.
Very Broad Pentagonoidal.



FIG. 8.
Foetal Ellipsoid.



FIG. 9.
Foetal Ovoid.

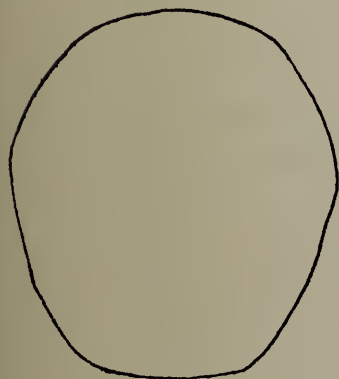


FIG. 10.
Broad Form A.



FIG. 11.
Broad Form B.



FIG. 12.
Diagram of the Cranial Eminences.

ON THE SO-CALLED OCCIPITAL TYPE OF CRANIAL CONSTRUCTION IN THE MENTALLY DEGENERATE.*

It has been the aim of scientists to establish a method by which one could determine to what human type a given skull belongs; the higher, the lower or the degenerate. After a careful analysis of the results that can be obtained by various cranial measurements Dr. Vorobiov concludes that the least erroneous measurements are those of the anterior part of the brain; the part measured by a line starting from the foremost frontal point and ending at the central junction of the bi-auricular lines. For the sake of shortness, this line is called ophrion-tragus, as the junction of the bi-auricular lines takes place just in front of the tragus. Many objections can be made to this method, but it seems to be the least erroneous of all. A few figures thus obtained are not strikingly characteristic, as was anticipated; in the healthy, the average height of the forehead is 70.3 mm., the individual extremes being from 52 to 88 mm.; in the insane, the same height was 69.4 mm., the only difference in favor of the normal being 0.9 mm., too insignificant a figure to be of any importance; but the individual range in the latter was between 48 and 95 mm., showing that among the insane one finds more cases of extreme measurements of frontal height.

In further investigations, care was taken to procure uniformity of individuals. For this purpose typical psychic patients with marked hereditary taint were chosen. To assure uniformity of race, the Velikorouss only were chosen—preferably from the old Vladimiro-Souzdalski section, which is now known as the Riazianski and Moscow Provinces; in order to obviate social differences, subjects of the peasant class only were examined—subjects who had spent their childhood and adolescence in pleasant surroundings. The group of normal subjects which were to serve as a comparative unit was thus selected: For every insane patient designated there was also found a subject approximately of the same age and stature (the age did not exceed five years' difference and the height remained within the limit of 1 centimetre's difference). Besides, wishing to remain within the limits of accuracy, the above persons were chosen so that their longitudinal diameter of the head presented no greater difference from one another than 1 mm. This latter point was carried out with the view of finding what difference there existed between the frontal and the occipital measurements in the respective groups, every subject of which presented the same longitudinal measurement.

Fearing that he would be too much influenced by the desire to

* *Journal S. S. Korsakova*, Nov. 2, 1901.

select identical subjects for comparison, the author chose yet a third group, similar to the insane; in this third group only those subjects entered whose transverse cephalic diameter was identical with that of the insane. An extra precaution was taken to remain ignorant of all other traits, except those the identity of which was desired. The 50 insane subjects represented the following groups of diseases:

Periodic insanity	18 patients.
Circular insanity	4 patients.
Neuro-degenerative forms (chron. delus. ins. of syst. evol., etc.)	8 patients.
Epileptic psychoses (with marked heredity and early onset of the disease)	9 patients.
Psychoses with marked obsessions and impulses (with pronounced heredity)	11 patients.
<hr/>	
Total	50

The table below shows the result of the three selected groups, as well as of 325 subjects from Riaziansk:

	50 degenerate insane.	50 normal subjects chosen according to longit. cephal diam.	50 normal subjects chosen according to transverse cephal. diam.	325 subjects from Riaziansk.
Height	1664.4 mm.	1655.1 mm.	1660.8 mm.	1651.3 mm.
Maximum longitudinal cranial diameter....	187.64 mm.	187.76 mm.	186.80 mm.	188.08 mm.
Maximum transverse cranial diameter....	154.90 mm.	154.08 mm.	154.90 mm.	153.1 mm.
Cranial index.....	82.53 mm.	81.87 mm.	82.86 mm.	81.48 mm.
Horizontal cranial cir- cumference	561.3 mm.	560.1 mm.	563.2 mm.	561.5 mm.

From the comparison of the figures in the second, third and fourth columns of the table, it is seen that there is no essential cranial difference between the insane and the masses of Riaziansk subjects, from among whom the comparative normal groups were chosen. The most marked difference is seen in the matter of height; this is simply because the insane happened to be of taller stature.

One might object to the intrinsic comparative value of columns 1, 2 and 3; but when column 1 is compared with column 4, one is forced to conclude that the identity between these two is not an artificial one; the 325 subjects examined in column 4 having been taken at random.

With the knowledge thus obtained showing that the cranial measurements are identical in both the insane and normal subjects, it was desirable to find out whether any difference existed in the frontal and occipital portions in the respective groups. The occipital measurements were not investigated for reasons of possible inaccuracy of method; the frontal alone were considered, as indicated by the ophrion-tragus line. As the human cranium presents asymmetry with the differences of measurement of the right and left sides and in the insane and normal, as shown below, an average was taken of the sum of the right and left measurements.

Among the 50 insane the difference of right and left measurements was found to reach :

3 mm.	in 1 case.
4 mm.	in 1 case.
5 mm.	in 3 cases.
6 mm.	in 5 cases.

Total 10 cases.

Among the 50 cases of the second column in the table :

3 mm.	in 1 case.
4 mm.	in 1 case.
6 mm.	in 2 cases.
9 mm.	in 1 case.

Total 5 cases.

Thus, frontal asymmetry is twice more frequent among the insane, although its maximum degree, of 9 mm., is found in the normal.

The averages of the ophrion-tragus diameters are :

In the 50 insane..... 119.40 mm.

In the 50 normal subjects chosen according to the

longitudinal cranial measurement..... 118.25 mm.

In the 50 normal subjects chosen according to the

transverse cranial measurement..... 117.65 mm.

In the 325 subjects from Riaziansk..... 118.60 mm.

There is only one maximum figure of 140 mm. in the case of an epileptic with dementia; and he has a hydrocephalic head.

As is seen, the insane show a maximum measurement of the ophrion-tragus diameter; but it would be wrong to conclude, with some others, that the insane present a higher frontal development. In these cases, the fact may be due to the condition of the larger stature of the 50 insane subjects. It is fitting to conclude that there is no essential difference between the frontal measurements in the normal and in the insane subjects.

A CONTRIBUTION TO THE STUDY OF ACUTE DELIRIUM. A PSYCHIC DISEASE OF SCORBUTIC ORIGIN, HÆMORRHAGIC ENCEPHALITIS OF STRUMPEL.

BY DR. BENJAMIN SEMIDALOW, MOSCOW.*

The subject of this disease has been treated of at length by many authors and the reader will be spared the reading of its bibliography here. Dr. Veidengammer and myself and Dr. Broukhansky have demonstrated recently that the causative basis of acute delirium is a hæmorrhagic inflammation of the cerebral cortex, and that the mode of onset of the disease has the characteristics of an infectious disturbance. Our views coincide with those of others who have studied the subject and among the most recent workers, Beinswager and Beranger (1) hold my views in this respect.

The variety of individual symptoms depends on the clinical conditions of the case and a high temperature at the onset is generally indicative of an infectious origin. The rise of temperature found in the large majority of cases at the height of the development of the disease may be considered as being due to the circulation of debris in the blood vessels caused by hypermetabolism of the tissues. The disturbances of consciousness and muscular movements as well as the paralytic phenomena are of essential significance in the diagnosis of acute delirium. The case cited below is exemplary of this affection. The point of interest here is that the patient made a recovery—an uncommon end of this affection.

M. N. A., widow, 55 years old, entered the Alexeievski psychiatric hospital July 17, 1899. The full history of the case cannot be had, but it is known that the patient's mother died of a psychopathic disease. The patient herself has never had any psychic disturbances, is not an alcoholic and has never had syphilis. In the quality of a hospital nurse she was assigned to take charge of a military sick ward in the Kazansk Department, where scorbutus was prevalent at that time, in 1898. The patient was given every

* *Simultaneous publication in the Journ. S. S. Korsakowa.*

luxury of life possible, as she was an officer's wife, and during leisure hours she was out in the fresh air; besides, she was isolated from the scorbutic wards during the last few months before her illness. Nevertheless, she showed symptoms of scorbutus on July 1; there were hæmorrhagic effusions about the right ankle and then about the left one; the temperature rose to 38.5 degrees C. On July 13 the hæmorrhages had disappeared, leaving oedema of the feet. But the patient began to show signs of psychic disturbances at about the tenth of July. She became highly irritable and unusually stringent with her inferiors, and made severe threats to those about her. On July 13, the patient showed a decided psychic disturbance, as she did not recognize persons well known to her; there was also a lack of judgment of time and space and she was unable to give any account of herself. She had many illusions of sight and hearing and spoke incoherently. Hallucinations of smell followed and she refused to eat or drink; she became filthy, urinating in her clothes, and there was also urinary retention; she suffered from insomnia and marked constipation. On the 15th, slight convulsions were noticed about the face and left arm and there was exaggerated muscular activity. On the 17th, she uttered neologisms in a rhythmic manner. The physical examination showed that she appeared anaemic, the gums were spongy, but the teeth seemed firm in their sockets; the mouth was filled with blood and there was an excessive salivation and a slight scorbutic odor. The pupils were equal in size and reacted to light and accommodation. The knee reflexes were normal and there seemed to be nothing wrong with the internal organs. The urine was free from both sugar and albumen. The knees were the seats of bloody extravasations. The temperature was 37.8 degrees C., the pulse feeble and rapid and the cardiac beats weak. The patient rambled in an incoherent manner and did not reply to questions addressed to her. She kept her eyes shut and her arms in the air, the fingers distended, executing rhythmic movements. If the hand was held a while, the movements stopped, but were resumed as soon as the restraint was released. The swallowing was difficult. On the 17th, the temperature was 37.7 degrees C., and she refused to eat, talking incoherently, with marked disturbances of articulation. On the 21st, the temperature was 38.4 degrees C., and numerous hæmorrhagic spots made their appearance on the chest and hands; the size of those spots was about that of a ten cent piece. The restlessness and incoherent speech and movements continued. Artificial feeding was continued. On the 23d, 24th and 25th, the general restlessness was exaggerated and there were facial and general muscular tremors

and convulsions. The head inclined to the right and the eyes in the same directions. Within the short period of this illness the patient lost 22 kilogrammes in weight. From July 26th to August 3d, the rhythmic movements of the limbs diminished gradually, the tremors also decreased in intensity, but she suffered intense headaches and when made to walk it was noticed that the gait was paretic. The condition seemed to tend towards a favorable issue, however, although she showed marked mental confusion with various delusions and hallucinations of sight and hearing. On August 25th, the physical and psychic conditions were decidedly improved, although her memory was quite defective; she did not remember how she had been brought to the hospital nor to Moscow. As soon as her memory became clearer, however, she imagined that she was living through the period of the Twelfth year, that the French had invaded Moscow, that she was threatened with death, etc. On September 9th, her condition was much improved and the slight difficulty in walking disappeared completely towards the end of that month.

From a clinical standpoint, the rapid development of the symptoms is to be noted. Then there are two distinct periods in the course of the disease; the first includes the initial period of general irritability and the second is marked by a sudden onset of obscured consciousness with motor disturbances. The latter period had its accompanying symptoms of convulsive and rhythmic movements, tremor, transitory strabismus, difficulty in swallowing and speech, retention and incontinence of urine and refusal of food. The first half of this period was also noted by an elevation of temperature, 38.4 degrees C. being the maximum. The second half is characterized by psychic manifestations, principally, which might be considered as belonging to the type of amentia. During the course of two weeks, these symptoms declined gradually and progressively.

From a diagnostic standpoint, this case did not suggest any form of amentia even when the psychic disturbances were at their height. Every symptom pointed towards an acute disease of an inflammatory nature, located in the cerebral cortex or, in other words, towards an acute cortical encephalitis; while the clinical *tableau* was distinctly that of acute delirium. Alongside with that were signs of focal lesions, as shown in the case. With these symptoms our case may be considered as one of a transition type between encephalitis of acute delirium and encephalitis of the type Strumpell. Such a transition is possible, and among the authors who support this view are Oppenheimer and Bree (2). Khmelevski reports a case of the variety in which acute delirium

was followed by symptoms of focal nature; the case reported here demonstrates the possibility of the reverse occurrence of symptomatic development.

Indeed, the history of the case shows that 10 days after the onset of the scorbutic signs, symptoms of acute delirium were fully developed; while these were in progress, scorbutic signs set in anew; there were seen subcutaneous hæmorrhages, of a newer date. With this knowledge, the infectious nature of the acute delirium cannot be doubted, and there is every reason to hold the view that the cortical encephalitis was caused by the specific scorbutic infection.

Prof. Levine has described the scorbutic bacillus (3). It belongs to the group of septic hæmorrhagic bacilli and the author calls it bacillus hæmosepticus.

It is of interest to note that on the day when the subcutaneous hæmorrhages took place, the patient's temperature rose and the symptoms took on a severe nature.

The favorable end of the disease in this case precludes the citation of the anatomical pathology that must have existed. Researches in fatal cases of this kind show, beyond doubt, that the disease is based on an infectious hæmorrhagic encephalitis. The cases observed by Amelevski, Joukovski, Popov, Veidengammer and myself confirm the view held here (4). The pathological anatomy of two recent cases (Veidengammer and Broukhansky) showed the following: Hyperaemia of the blood vessels of the cortex and its envelopes, disseminated hæmorrhages, infiltration of the vessel walls, thromboses, and infiltration with lymphoid elements in the pericellular spaces in the cortex. In Siemerling's case of acute delirium (5) there were also found hæmorrhagic foci in the cortex. In the recent work of Beiswanger and Berger, two cases of acute infectious psychoses are reported which terminated by lysis and there was found extended degeneration of the spinal and cortical cells, acute degeneration of the myelin fibres, hyperhaemia and white cell emigration. Both cases are considered by the authors as those of acute encephalo-myelitis of an infectious nature.

The more the disease is studied the more it is recognized as being an infectious disturbance characterized by identical anatomical lesions. From the etiological and anatomo-pathological standpoint, the disease must be classed as an individual affection; it cannot be confounded with idopathic amentia.

Acute delirium is one of the severest cerebral affections although there are some cases of recovery now and then. Some of these may come out demented. These may be compared to Oppen-

heimer's cases which he terms as primary encephalitis and in whom mental improvement took place within a certain period of time, others having made a complete recovery. Brie speaks of cases where the inflammatory process is less severe, the development of symptoms more moderate and where the inflamd foci disappears through gradual resorption recovery being thus established. It is probable that our case was one of a similar nature.

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EXPERIMENTS ON THE MOTOR PRECISION OF THE SANE AND THE INSANE.*

BY DR. CARLO SCAPPUCCI, ITALY.

I have made numerous experiments in Dr. Ferrari's psychological laboratory (Psychiatric Institute of Reggio-Emilia) for the purpose of determining the degree of the practical value of the *Mental Test* suggested by Drs. Guicciardi and Ferrari, in 1897. The test consists of an analysis of motor precision of the insane.

I have examined fifty men and fifty women patients (Reggio-Emilia asylum) who are suffering from various forms of psychic diseases, and have compared the results obtained with those of another series of identical experiments on fifty men and women, respectively, who were in perfect mental as well as physical health, of as nearly the same age and education as were the insane subject.

A brief description of the experiment is as follows:

A copper plate is covered with one of ebony; the latter is 134 mm. long, 65 mm. large and $4\frac{1}{2}$ mm. thick. This upper plate has thirty holes, which are disposed regularly in three lines; the largest hole is marked by the figure 30 and measures 10 mm., while the smallest hole is marked by the figure 1, through which a dissecting needle can pass with difficulty. The needle is put into a holder, placed at a distance of ten centimetres from the plate with the holes, and the subject is asked to put the point of the needle into every hole of the plate, beginning with the largest and ending with the smallest. Both the needle and the copper plate are connected with a Grenet coil and an electric bell, so that every time the needle touches the copper plate through the holes in the plate above an electric contact is established and the bell rings.

A small indicator shows how many times the subject has tried to pass the needle through the hole and the experiment is completed after the subject has tried 20 times for every hole. The number of failures to pass the needle through the holes was marked on a special chart which gave the curves as seen in the tables.

* *Simultaneous publication in the Rivista Sperimentale di Frenitria*, Vol. XXVII.

The right hand of the subjects was tried first, then the left one; besides, every subject was submitted to two experiments, at from five to ten days' interval between them, according to the case, so that there were four tracings which represented the experiments on every subject. In all, two hundred subjects were examined; fifty men, healthy and insane, respectively, and fifty women, also of the same category. There were, therefore, sixteen graphic tracings in all, showing the motor precision in the subjects. The tracings which accompany this study are composite in nature. The tracings expressive of the motor precision of the right and left hands, respectively, in the fifty normal men, are represented in four charts; those expressive of the motor precision of the right and left hands of the fifty insane men are represented in another set of four charts; the motor precision of the fifty healthy and the fifty insane women is similarly expressed in composite charts—four for each group.

The composite charts were constructed as follows:

Every graphic point on the charts represents an arithmetical average of the failures made by the fifty persons in their attempts to put the needle into a given hole, for instance, by the fifty right hands of the healthy men during the first experiment, or the fifty left hands of the insane women during the second experiment, etc. The number of the corresponding holes is marked at the bottom of the chart, while the number of failure to put the needle into a given hole is marked at the left hand side of the chart. To be more explicit, an addition was made of all the errors committed by the fifty persons, the motor precision of whose hands, right or left, was tested, during the first or second experiment in touching the hole with the needle; the figure thus obtained by addition was then divided by fifty and the fraction obtained was marked graphically on the chart. Thus, for instance, there is marked graphically 3.2 in relation to 12 at the base line of the first chart; this implies that fifty healthy men, experimenting with the right hand for the first time, made, altogether, 152 failures, or that, on an average, they did not succeed in putting the needle into the hole which corresponds to number 12 until they had made three attempts (and a fraction), as 152 divided by 50 equals 3.02.

The tracings are arranged so that the first four represent the experiments on the healthy men, D. indicating the right and S. the left hand; 1, indicates the first and 2, the second experiment. The next four tracings represent, in the same order of succession, the experiments on the insane men. The tracings of the experiments on the healthy and the insane women are arranged in a similar manner.

I have had occasion (1) to point out the advantage of individual psychological study in the matter of the examination of motor precision in general: I have not yet had time to investigate the vast material furnished in this line of work and I limit my present communication to this cursory sketch.

I shall analyze the homologous tracings, first, that is to say, those relating to the hands of the same denomination of subjects of a given group, in order to compare the results obtained during the first and second experiments respectively.

In the tracings I and III, and II and IV (healthy men) it is seen that the curve for the left hand expresses more accidents than that for the right one, and that, while there is a lowered level and a more marked regularity in the tracings of the second experiment for the right hand, the tracings of the left hand show a lowered level only, the regularity remaining almost unchanged.

The contrary is found in the tracings of the experiments on healthy women, as seen by comparing tracings IX with XI, and X with XII. Here, indeed, it is seen that the general level of the curves is not lowered to any extent in the second experiment, but their regularity is more noticeably marked, especially on the right hand side of the tracings.

In the insane (both in men, fig. V-VIII, and in women, fig. XIII-XVI), on the contrary, the improvement with the repetition of the experiments is but slight, as seen from the fact that the general level of the curve slightly lowered, and this lowering of the level is almost limited to the tracings of the experiments on the men only (fig. V-VII).

This fact would seem to carry no importance with it, the insane being characterized by irregularity, were it not for the truth that there seems to exist a certain regularity in this very irregularity; by superposing one tracing upon the other, of an homologous denomination, the respective lines seem to coincide with one another in a remarkable degree, if not in the matter of precision, at least in that of number and general aspect.

In men and women of normal health this regularity is less marked; but it seems to exist to a noticeable degree especially in the left hand; this fact explains itself—the left hand being the least differentiated of the two.

The regularity referred to is not too obvious because of the complexity of the experiment, but the existence of the former is sufficiently constant to be looked on as a phenomenon beyond purely accidental occurrences and deserves to be brought to light for further study.

(1) *Rivista Sperimentale di Freniatria*, Vol. XXVII.

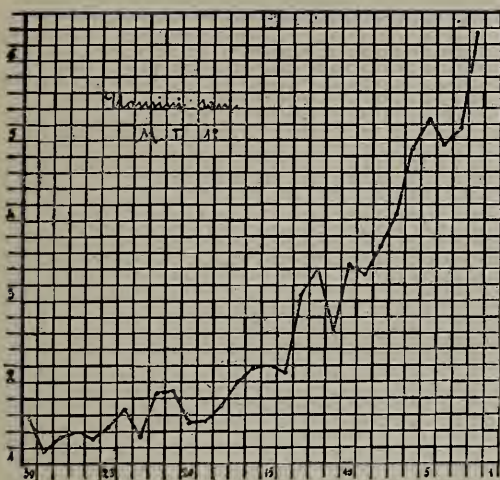


FIG. I.

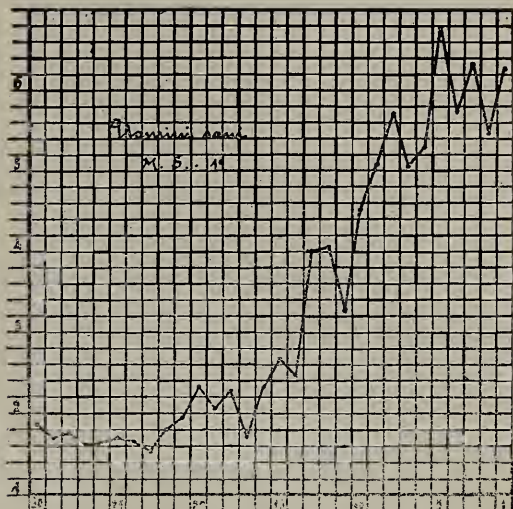


FIG. II.

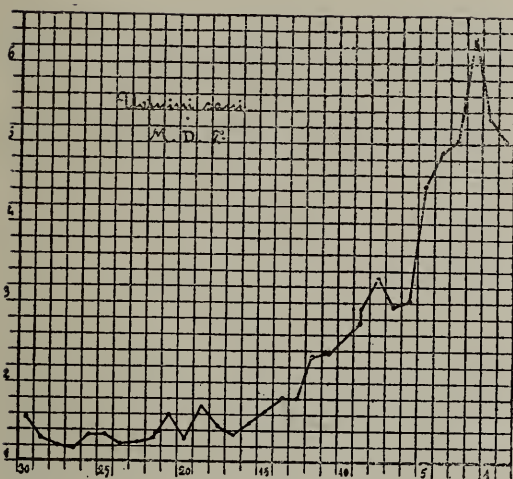


FIG. III.

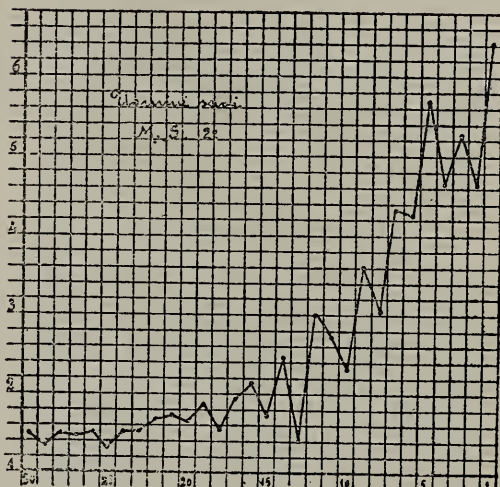


FIG. IV.

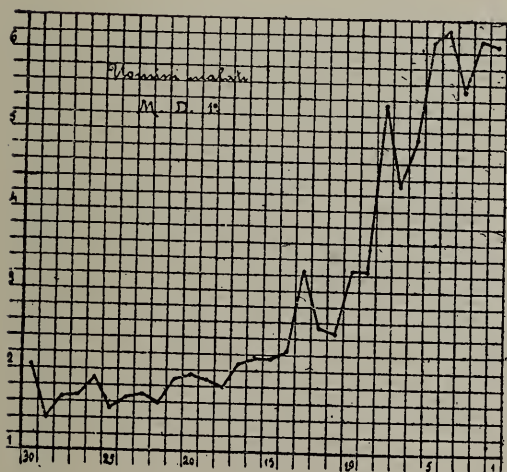


FIG. V.

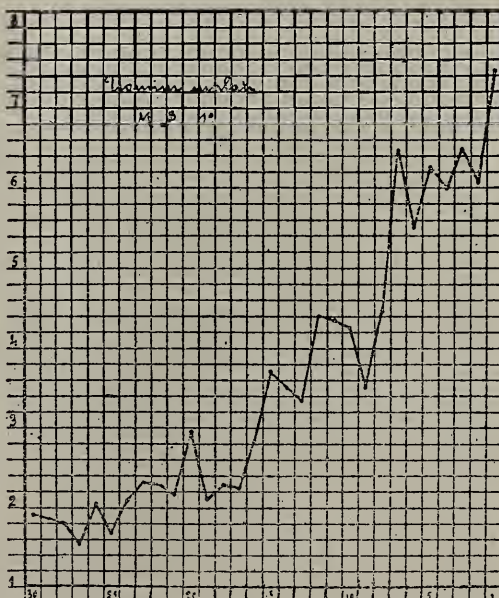


FIG. VI.

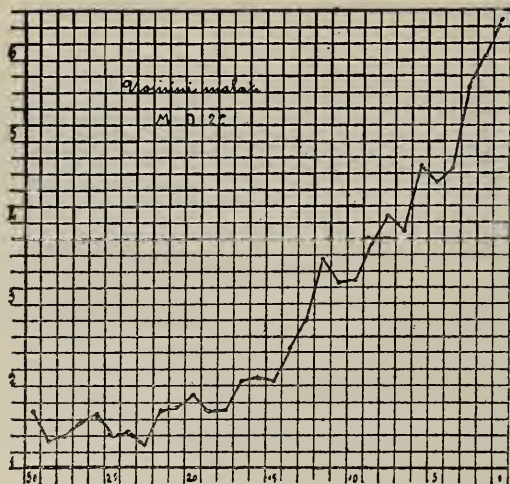


FIG. VII.

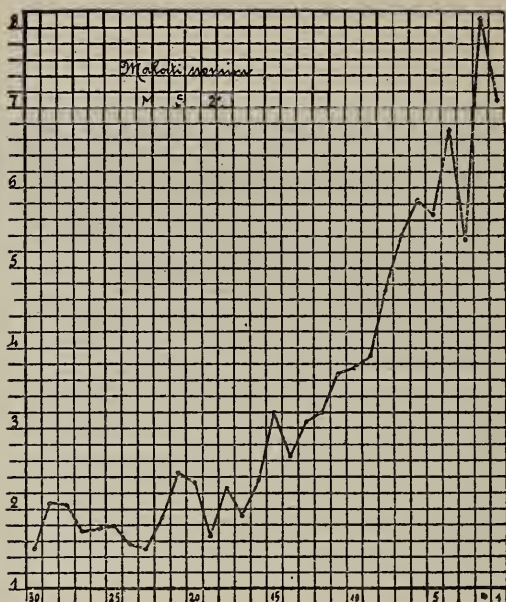


FIG. VIII.

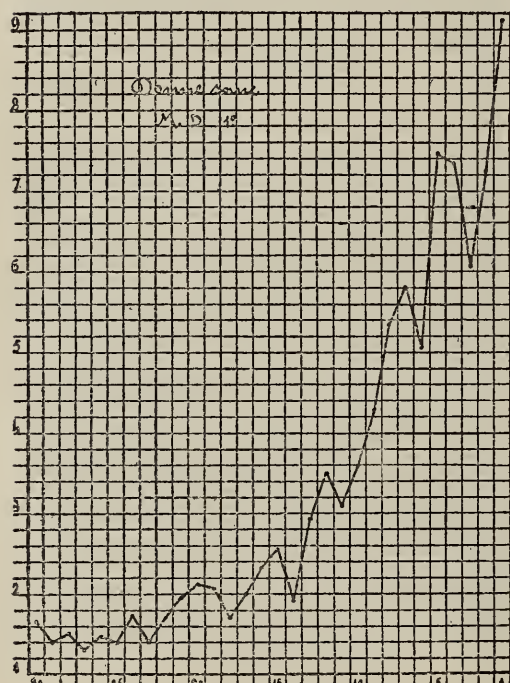


FIG. IX.

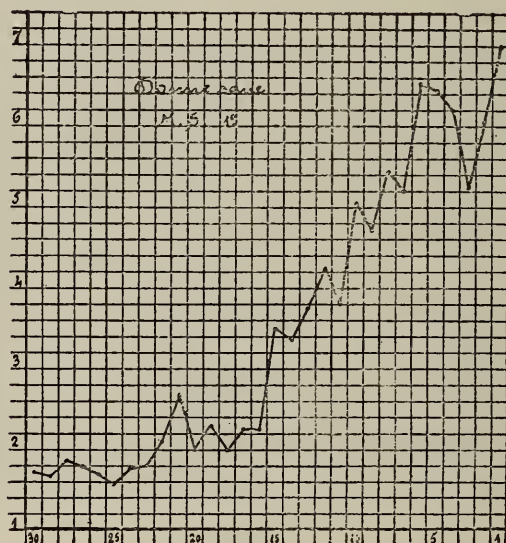


FIG. X.

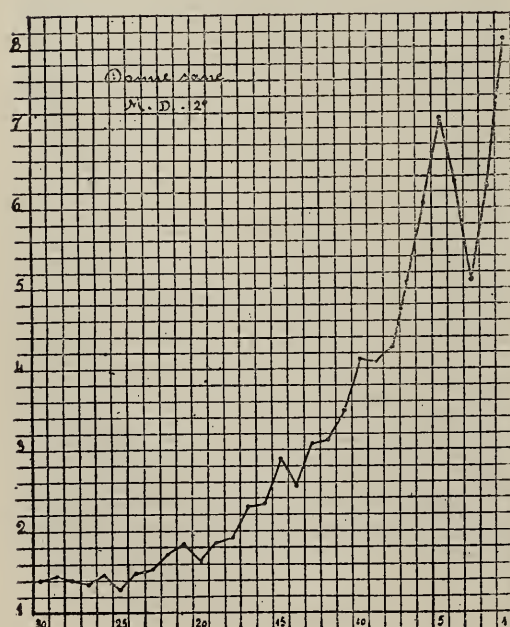


FIG. XI.

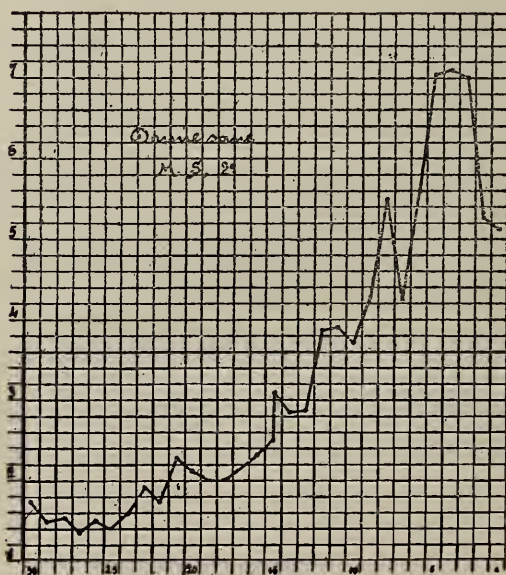


FIG. XII.

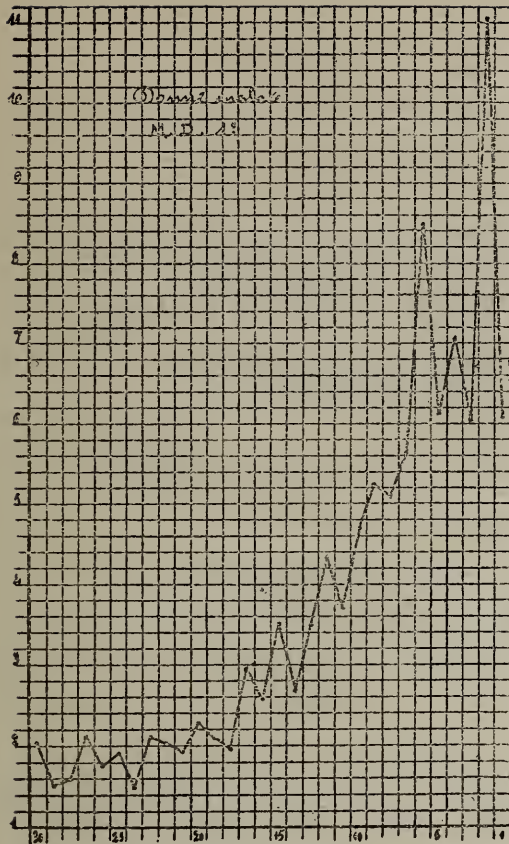


FIG. XIII.

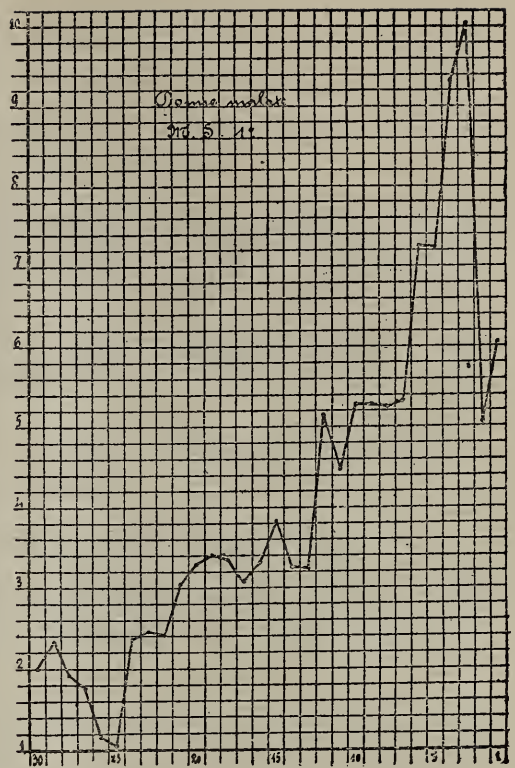


FIG. XIV.

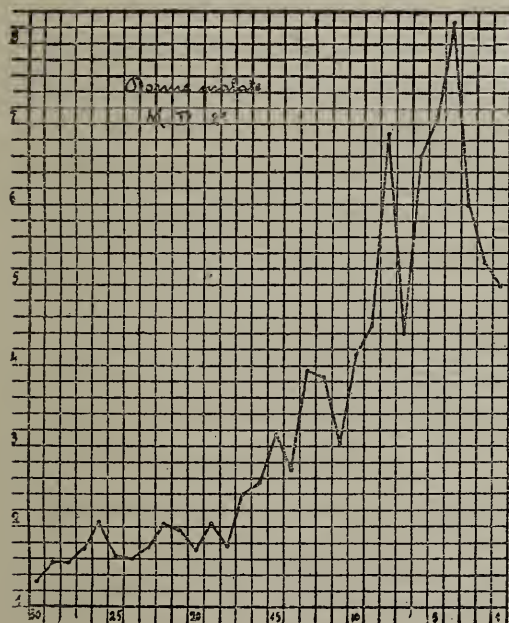


FIG. XV.

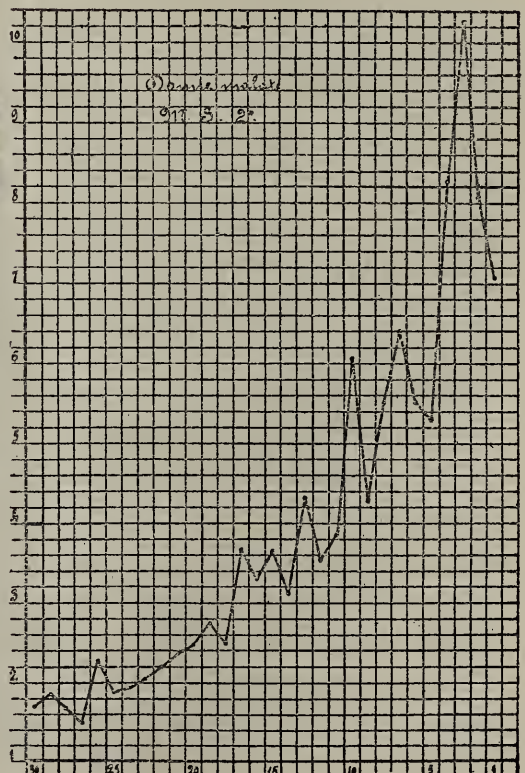


FIG. XVI.

EXPLANATION OF INSCRIPTIONS ON CHARTS.

Uomini sani	healthy men
" malati	(sick) insane men
Donne sane	healthy women
" malate	(sick) insane women
M. D.	right hand
M. S.	left hand

THE GENESIS OF EPILEPSY CLINICALLY CONSIDERED—THE PATHOLOGY, PROPHYLAXIS AND TREATMENT OF EPILEPSY.*

ILLUSTRATED BY CASES AND STATISTICAL TABLES.

BY LOUISE G. ROBINOVITCH, B. ÈS L. (PARIS), M. D.

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I.

Epilepsy is best studied in clinical work.—The study should begin with the analysis of vertigo of alcoholic nature and should follow the successive stages of pathological development in the parent and the consequent manifestation of epilepsy in the offspring.—Epileptiform convulsions of alcoholic origin are the stepping stones to epilepsy in the offspring.—Clinical illustrations.

The study of epilepsy should consist not only of the study of that branch of science whereby the obscure nature of the disease is analyzed after death, under the microscope, but also of clinical work, by which its manifestations during life plainly point out the means for combating the affection. The disease is best studied and easiest understood when analyzed in its simplest forms.

For the sake of clinical simplicity, let us begin with the study of vertigo, a frequent substitute or accompanying phase of epilepsy.

Under what circumstances does vertigo generally take place? What causes it? Can it be induced or stopped at will when the cause is easily induced or removed? When vertigo is followed by a severer clinical element—a convulsion, can this be stopped or induced again, at will, by inflicting or removing the cause?

When the cause is allowed to ravage the system and to induce convulsions in a subject, what happens to the subject's offspring—the ready borrower of so many intimate parental traits? Does the parent have to be afflicted with a convulsive disease in order to transmit it to his offspring, or is the specific cause of epilepsy so

* An abstract of this paper was read at a meeting of the medical section of the New York Academy of Medicine, Dec. 17, 1901.

far-reaching in its determination of cerebral changes in the parent that the latter may transmit a convulsive disease to his offspring while he himself remains free from the disease?

These difficult questions will be examined in a manner that will lead from the simple to the complex and will show the cause and effect.

Let us pay attention, first, to the clinical phenomena of alcoholism which are so often accompanied by vertigo and convulsive symptoms.

THE ACTION OF ALCOHOL ON THE HUMAN BRAIN.

What influence has alcohol on the human brain when there is simple intoxication? The question will be answered by a clinical demonstration which speaks in more eloquent terms of description than can mere words.

Case I.—*Acute alcoholism.—Hallucinations of sight and hearing.—Disturbances of general sensibility.—Attempted suicide.—Mental degeneracy.*

E. A., 27 years, was admitted to the Admission Bureau, Ste. Anne asylum, May 21, 1899. The history of the patient is wanting in essential information. The patient was born in Russian Poland. He has always been of a nervous temperament, impressionable and sensitive. He devoted most of his time to the study of the Fine Arts, and even distinguished himself as a student at the Warsaw School of Fine Arts. At the age of nineteen, he left his country and came to New York. He had no difficulty in finding remunerative employment in his professional work and was paid eighty dollars a month by a leading commercial house here. He soon tired of the occupation and entered a law school. There he remained six months and again changed his occupation. He worked for a well known life insurance company in New York, made a good record for himself, earning some three hundred dollars monthly, he alleges. He remained with this company three years and then entered into business relations with another company which offered him better terms. There he remained fifteen months, earning four hundred and fifty dollars a month, he says. About that time the patient began to imagine that people envied him, that they were jealous of his success, that they prejudiced the company against him, and that he was being watched. After some months of this morbid suspicion, he finally visited the office of the company and created a disturbance. He was arrested, was taken to Bellevue Hospital and was soon transferred to a private sanitarium; he submitted to this under protest and managed to

make his escape after the third month of his stay there. He left New York for Germany, where his parents came to see him, but after a short visit he tired of the quiet life and went to England to resume work. This was in August, 1898. Meanwhile, he wrote and published a book on a philosophic question of life and the publication had sufficient success to warrant its dramatization by the patient himself. He began work for a London branch of the life insurance company before mentioned, but his delusions soon reasserted themselves; the company had a grudge against him and paid an army of people to watch him and to poison him. Did he drink a glass of milk—it was full of poison; did he eat a beef steak—he could taste poison in it. He began changing restaurants, but with no result; there was poison put into the food, wherever he bought it. He then decided to hurry away from England, to some country where he could live unobserved. Montreux, Switzerland, was decided on. No sooner was he on the train than the company's "spies" were at his heels. This was intolerable; he jumped at a man in the car, thinking he was one of the spies. At the nearest station E. changed to another train in order to escape his persecutors. He took an extra precaution, on reaching the continent, by stopping at Paris, instead of going straight to Montreux, as he had intended doing. As he could obtain no room at the Grand Hotel and was obliged to engage one in a smaller place, he concluded that the company had followed him to Paris and spread bad information about him. He, therefore, engaged a guide, told him of the persecutions and begged him to extend him protection. The guide took the patient around to show him the city; absinthe and rum were indulged in freely, the guide declaring that there was no poison in those drinks. After some few days of these indulgences, the patient became severely intoxicated and was brought to his hotel in a condition of mental excitement. The night was spent restlessly, acute gastric disturbances keeping E. awake; there were also hallucinations of sight and hearing.

He was taken to the *Infirmierie du Depot* and thence brought to the Admission Bureau at the Ste. Anne asylum. Here he had most marked facial pallor, trembling of the hands and profuse perspiration of the whole body. When put to bed he shrieked with fright, fearing that he was going to be killed by those around him. When I approached his bed he mistook me for his sister and called me by her name. He held on to me, crying and shrieking: "Oh, for heaven's sake, do not leave me; they are going to chop your head and mine off. They have filled me with poison up to my throat; my stomach is full of burning coal; everybody's head will be chopped off." And grappling with the attendants who tried to

calm him, he cried: "Oh, it is horrible, horrible; look" (pointing to the trees in the yard) "oh, this horrible place; it is a wilderness where human blood floods the earth, permeates the air and submerges the trees; look at those heads hanging from the trees—at those innocents being killed." He beat his head against the wall and bedstead, crying that he wished to kill himself rather than be beaten to death by "those beasts." Every touch by an attendant made the patient try to jump out of bed, he imagining that an axe was chopping his flesh; every look of those he noticed frightened him; every one was actively engaged in wholesale manslaughter, the blood flowed in rivers from all sides, his own bed and body were the fountains of bloodstreams; his sheets were red, saturated with blood; bleeding heads were hanging over him, and bloody animals were creeping over his skin. He tasted the blood; it stuck to his tongue, it was everywhere, on everything; it glued his fingers together and stuck between his teeth. A few days and nights of this painful fright and constant agitation finally exhausted him; in despair he took hold of his tongue and pulled it with all his might, trying to tear it out and "get done with the butchery" rather than be tortured, as he was in his imagination.

The condition of the patient was a serious one, for, besides the disturbances described, he suffered from fever that pointed to a pulmonary lesion; and, indeed, on examination some induration was found in the pulmonary apex. He was sinking rapidly, but a careful and tender nursing brought him out of danger. It was some weeks before the last delusions left him, as delirium of degeneracy was intimately intermixed with the alcoholic delirium properly speaking.

The early effects of alcohol on the brain are, then, an acute generalized excitation of the cerebral nervous cells; this is demonstrated by the manifestation of the transitory psychic symptoms which disappear with "the last vapor of the alcohol" (*Magnan*). After such an attack, if no repetition of ingestion of alcohol takes place, the transitory psychic disturbances may be of no consequence to either the subject himself or his offspring, as will be shown further on. The case becomes a grave one, however, to both parent and offspring, when the indulgence becomes a chronic habit. Before even the parent falls victim to any convulsive attacks the child, conceived during a period when alcoholic excesses are indulged in, may be brought into the world with a deep rooted stigma of pathological nature. Such an offspring may die of meningitis a few days or weeks, or perhaps months, after birth; or else, the child may become an epileptic, with or without accompanying psychic disturbances.

The case below shows the relation between parental alcoholism and pathological descendancy.

Case II.—*Alcoholism.—Hallucinations of hearing and sight.—Delusions of persecution.—Disturbances of the general sensibility.—Attempted suicide.—Two children born before the father acquired the alcoholic habit, are healthy; but two children born after that period died of meningitis during infancy.*

M. J., 39 years old, was admitted to the Admission Bureau Ste. Anne Asylum, March 29, 1899, and is a mechanic by trade. His father died of pulmonary disease and his mother died of heart disease. One sister, 34 years old, is a nun; one brother, 37 years old, is healthy and gains his livelihood by shoemaking.

The patient always enjoyed good health, married when he was 23 years old and was steadily employed in his trade. Up to eight years ago he did not indulge in alcoholic drinks. *Two children were born in that time and both are healthy.* Eight years ago he lost his position and worried about it. He began to indulge in alcoholic beverages with a view to "cheering up," he says. He did not drink every day, but only now and then. After indulging freely in drink he would suffer from gastric disturbances and night-mares; but a period of sobriety after this always restored him to his usual health. At times he indulged in drink quite freely, however, and the clinical manifestations were more marked; there was mental depression, slightly marked hallucinations of sight and hearing. He was now taking three quarters of a litre of wine daily, from three to six "absinthes," and some rum, now and then. In January, 1899, after having indulged in drink, he had hallucinations of hearing, and delusions of persecution of a painful nature. He heard voices telling him that he would be thrown into a well, that the Pope had condemned him, that his heart would be torn out, that Jesus Christ needed it. The patient was pursued by imaginary enemies, from whom he tried to escape. "My nerves were creeping crosswise" (*les nerfs me marchaient de travers*), he said. This sensation he attributed to a mysterious action of a telephone beyond the walls of his room. He pulled his "nerves" in order to become free from the pain they gave him. The "nerves said" to him all sorts of things and "made him" sing songs (*ça me disait toute sorte de choses; ça me faisait chanter des chansons*). He grabbed an iron bar and attempted to demolish the wall and the telephone which made him do those unusual things through the medium of the "nerves."

He was taken to the Ste. Anne Asylum and from there transferred to the Ville-Evrard Asylum. The delirium soon subsided

and the patient was given his liberty. He resumed his alcoholic excesses, however, and soon had another attack of alcoholic delirium. He was persecuted and heard a voice tell him: "I want to shoot you with a revolver." He continued drinking, preferably absinthe. "I imagined," he says, "that there was always some one behind and close to me, that by means of a machine, people knew all my thoughts, that I was in a prison and that prisoners were being brought in secretly and put in secret cells. This made my mind suffer so that I wished I could be without a mind, to think of nothing—so much did the thought tire my head. I heard a weird sort of music that a machine repeated. People wished to kill me; they were hidden beyond the wall, the attendant from Ville-Evrard and his comrades had come to me, and were particularly bound on taking my life. I heard their voices to that effect. Many a time I got out of bed during the night, all afright and on the defensive against the murderers who were tormenting me. In the morning I took my breakfast, but was enervated by the machine beside me. Finally I could stand this no longer and cried out: "As they wish my life, there it is (*puisqu'ils veulent ma peau-la voila*) and I threw myself from the window."

On the occasion when he acted in that manner, his wife had run into the room and reached him in time to catch him by the foot. "Let go, let go" (*lâche, lâche moi donc*), he had cried to her, as he felt the hold and heard her crying for help. No one had come to the rescue, and the wife, too exhausted to sustain the weight of the suspended man, had finally loosened her hold and the patient had fallen from the third story. An arm, one leg, one foot and several ribs were broken and he sustained many contusions. Within the course of a month, his delirium had completely disappeared. He spoke rationally and coherently, showing no traces of the psychic storm he had gone through.

Two children born during the last eight years died in infancy of meningitis.

In summing up the clinical picture of acute alcoholism Dr. Magnan says: "By the sense of sight: he imagines that he sees numberless animals, thieves, assassins; he sees the most crushing scenes; he sees himself in the midst of flames, on the gallows. By the sense of hearing he imagines that he hears insults, threats, accusations against his honor, morality; he hears groaning, complaints, cries, clashing of arms. By the sense of smell: the most obnoxious smells surround him, suffocate him; he breathes in a pestilential atmosphere. By the sense of taste, there is nothing too nauseating, nor too poisonous for him to taste. Finally, by the sense of touch, he imagines himself subject to the

most frightful punishment; he feels the sharp point of the blade penetrating his flesh, mutilating it frightfully, or else it is the creeping of a serpent on his skin, encircling him; insects and worms gnaw his body that is falling to pièces; clouds of flies penetrate into his mouth, nostrils and eyes; or else, he is drowning or being thrown into a chasm.

“Under the influence of these hallucinations, the unfortunate patient reacts in different ways. He becomes excited, defends himself, strikes, or remains immovable, crushed, stricken. His various attitudes result accordingly; he is maniacal, melancholy, stupid; all the attitudes have their origin in the same cause, but vary according to the degree of intensity of that cause. A successive gradation is observed in the development of these phenomena.” (1)

The immediate effects of alcohol on the brain may disappear, as already stated, within a greater or lesser length of time, leaving no pathological traces in the cerebral tissue, if the repetition of the attack is prevented. But the patient who persists in satisfying his morbid craving for alcohol fares less fortunately; the transitory tempest produced by the toxic agent is then not the only pathological result; the delicate cerebral tissue, fed on a poison that does not fail to imprint its indelible mark, soon becomes the seat of grave anatomical changes. Clinically, the more permanent imprint of the effects of alcohol on the brain tissues is expressed, in addition to the muscular tremor, acute delirium and disturbances of the senses, by another set of symptoms that are grave in their nature, being the result of pathological phenomena.

“At the end of some years of continued alcoholic excesses, when the chronic alcoholics begin—allow me the expression—to become ripe, that is to say, sufficiently intoxicated—their intelligence becomes enfeebled, the memory diminished, the imagination dulled, the thinking power slowed, the judgment less firm, the moral and affective faculties more lax; the patients become apathetic, indifferent, with less of will power, other than that necessary to satisfy their instinctive appetites. At that period appear also vertigo, formication and cramps in the limbs, small apoplectiform attacks are followed, now by a temporary paresis of an arm or a leg, now by thickening and difficulty of speech.” (2)

In our study of the genesis of a convulsion from a clinical standpoint we have, thus far, been enabled to observe the preparatory step in the brain. One step higher, one more degree of morbid

(1) MAGNAN. *Recherches sur les centres nerveux*, p. 14, 1896.

(2) MAGNAN. *Recherches sur les centres nerveux*, p. 52, 1896.

changes in the cerebral tissues, and we shall witness the next pathological step consequent on the use of alcohol; that step is characterized by the appearance of vertigo; the latter may be accompanied by an occasional convulsive manifestation.

As for the offspring conceived at that stage—they are generally born with a condition of cerebral pathology far exceeding that found in their parent. The diseased tissue in the parent has now become twice diseased in the child. The pathological cerebral change in the parent which is expressed clinically by a mere vertigo, is in the child, born at this stage of evolution of parental chronic alcoholism, manifested by far more severe symptoms. These may range from simple convulsive spells to the most profound psychic degeneration, such as idiocy, imbecility, criminality, porencephalus, accompanied or not by palsies, and varied other deformities both of mind and of body; alcoholism and other morbid appetites are frequent manifestations in such descendancy.*

A glance at any clinical record sustains all that has just been said, as is shown in the case below.

Case III.—*Chronic alcoholism at the time of marriage.—Hallucinations of sight, hearing and taste.—Delusions of persecution.—Vertigo.—Epileptiform attacks, repeated attempts at suicide.—Pathological record of eleven children born; among the diseases of the latter are: Meningitis, convulsions, drunkenness and St. Vitus's dance.*

M. P., 65 years old, was admitted to the Admission Bureau, Ste. Anne Asylum, June 28, 1899. There is no pathological record in his family either on the maternal or paternal side. His mother died at the age of 84 and his father at the age of 55 years. The brothers and sisters are healthy. The patient has been married 43 years and his wife says that he has been drinking since she first knew him. Eleven children were born, whose record is: Four children died of meningitis, two twins died when one month old, one child died at eighteen days, and another at six months, both the latter from "convulsions." One son died a drunkard at the age of 35. Two children only are living: One girl, eleven years old, has St. Vitus's dance, and a boy, three years old, has not yet shown any gross pathological symptoms.

* Vide: Dr. Robinovitch. *The relation of criminality in the offspring to alcoholism in the parent. A clinical study.* Read before the International Congress of Psychiatry, Paris, 1900.

Dr. Robinovitch. *Idiot and imbecile children. A clinical study.* The Journal of Mental Pathology, Nos. 1 and 2, 1901.

The patient has been indulging to excess in alcoholic beverages since his adolescence. At the time he was married, in 1857, he was already suffering from attacks of giddiness and vertigo. He was hardly ever sober, his lifetime alternating between the conditions of chronic alcoholism and spells of acute exacerbations. During the latter periods he suffered from hallucinations of the senses and had delusions of persecution: His wife was deceiving him, was unfaithful; people pursued him, tried to kill him, to strangle him, to poison him. He heard his enemies, he could see them, his food and drink tasted of poison and he refused to partake of either. His wife was in a plot with his persecutors and he beat her. At various times, frightened by the pursuit of imaginary enemies, he cried for help and attempted to jump from the window, or down the staircase. Since his wife has known him he has been suffering with cramps in the legs, arms and stomach, nightmares and vomiting in the morning, dizziness, vertigo and occasional small cerebral apoplexies which were followed by slight muscular paresis, now of the face, of an arm, of a leg, or of the tongue. The memory as well as the intelligence weakened gradually but progressively, and he fell, at times, into convulsive epileptiform attacks. On one of those occasions he broke his leg. When regaining consciousness he was astonished to find himself with a fractured limb; he was totally unaware of the circumstances under which the accident had taken place. On July 14, 1895, he celebrated the national holiday by indulging heavily in alcoholic excesses. While thus at table, drinking, he suddenly fell in a convulsive attack. He lost consciousness and remained in that condition during a period of eight days. After recovering from the attack he resumed the alcoholic habit. The convulsive attacks thereupon became more frequent, and assumed a more decided character. In May, 1897, he had another severe epileptiform attack and fell unconscious to the ground, breaking his leg for the second time. The accident was a blank to him; he knew of the occurrence only from what he had heard his wife tell him about it. At this time, his memory as well as his intelligence had become lowered far below the normal, and he was little more than a dement.

Only now, when his mental as well as physical strength were reduced to their minimum, was the wife enabled to control his habits and prevent him from further indulging in alcoholic drink. A permanent injury had been done to the brain, however: although forced to abstain from alcohol during a period of fourteen months, the patient's intelligence remains impaired, the memory reduced and weakened, the whole muscular structure making no exception

to the generalized ravages; the speech is thick, heavy, uncertain, the eye is dull, the whole being is tainted with the disastrous storm of years of self imposed poison. Recently, on recovering from an epileptiform attack he took a knife and cut his wrist. When recovering consciousness he saw the wound and knife with which he had inflicted it, but he was astonished to see both; he knew nothing of the manner in which the deed had been accomplished. When brought to the asylum for treatment, he presented the condition as below: Dulness, no memory, forgetting what was said to him two minutes previously. When asked about the loss of his memory he said in indistinct utterance: "It is queer how I am losing my memory." (*C'est drôle que je perds la mémoire*). He has vague delusions of persecution, imagining that people wish to kill him, that his food tastes of poison, that his wife puts poison into the food given him; the attendants are bartenders and refuse to give him drink for spite. Grieved with these painful delusions, he cunningly managed to find a razor and cut his throat. He was surprised in time, however, and an injury to the large vessels was averted. "It was a pity," he said, that he was caught in the act, "for the poison was still being put into my food." At two different times he has shown excessively painful delirium, moaning and shrieking by day and night and refusing to swallow any food. The tongue was dry, the lips were parched, the eye haggard; he lamented and tossed in his bed, trying to rid himself of the enemies and the poison.

The laboratory experimentors and investigators bring us valuable help in the difficult matter of solving the problem of the genesis of epilepsy. The researches on the diseased brains, by bio-pathological analyses, by the study of patho-physiological phenomena and psycho-pathological manifestations, as well as by microscopic investigation, cannot be over-estimated as helpful aids in this work. It is a question, however, as to how far the practical side of the subject, that of eradicating the disease, will thereby be benefited if the simple study of the fundamental principle of the causation of epilepsy is neglected and sacrificed for the study of the higher and more complex phenomena that characterize this disease.

In clinical work, on the other hand, one has a more valuable exposé of the genesis of epilepsy than is found in experimental research. In the clinic, one has a great advantage over the pathologist in the laboratory. The clinician can trace the development of epilepsy throughout its subtlest steps, following the malady from its simplest morbid element to the complex. Laboratory work is reduced, for obvious reasons, to discovering the grosser and most

marked pathological alterations; it is logical, therefore, that it should lead us from the complex to the simple; from the whole of the disease to its primary element.

When the microscope shall have found the successive pathological stages which characterize epilepsy, from its early birth onward—and when all the other researches shall have accomplished the same results, and shall have shown us where the beginning of epilepsy is—that the slight vertigo of the alcoholic is a frequent forerunner of epilepsy in his descendants, then will all the researches end where we begin; they will show that epilepsy has its origin in parental alcoholism.

If, therefore, we are in a position to know how the primary element of epilepsy may be eradicated, science is in a fair way to know how to stop the progress and growth of that disease.

(To be continued.)

NOTE ON A PHENOMENON OF IMMEDIATE FORESIGHT.

BY KAMA FAIRBANKS.*

Cases on paramnesia, illusions of false recognition and other analogous phenomena are not rare now; I should have hesitated to publish the case below were it one like those above, as it appears to be at first sight. As will be seen, however, it is quite different, the facts of the illusion being not *recognized* but *foreseen*; for this reason I use the above heading to the case.

At about the end of October, 1900, I was attending a lecture in psychology at the Faculty of Sciences of Geneva. It was my first visit to the lecture room and it was also the first time that I saw and heard the lecturer, Professor M. F. I was tired physically, but my mind was perfectly clear and alert, as is generally the case with me when I am tired. (I have even suffered a good deal from insomnia through this.)

M. F. spoke of generalities and I marked down in my note book everything that seemed to me interesting or important. At a certain moment he spoke of personal equation of astronomers, and I marked this down also; the expression pleased me and I even thought that it was a fine expression by which to designate the differences of the ways of being or the character of people in daily life. Then M. F. went up to the black board and illustrated his arguments by drawings and figures.

At that moment, all of a sudden, it seemed to me that I was miles away from the place of action, that I could hear the lecturer with difficulty at that great distance and that *I knew* beforehand what he was going to say. I had a very strong impulse to loudly cry out every word before he uttered it; and curiously enough, he did speak the words I whispered to him mentally. The same was true of the figures, which did not constitute mathematical relations, but were simply figures chosen haphazard as examples. At that moment, neither the lecture room nor the audience existed to me. All I was conscious of was the presence of M. F. and myself in the distance and I whispered to him beforehand word for word what

* *Archives de Psychologie de la Suisse Romande*, 1901.

he was saying, although the subject on which he spoke was foreign to me. Then I became much worried about this occurrence which I could not explain to myself: I feared that the manifestation might be a symptom of some disease or insanity; I feared particularly that I would faint and that I should thus cause a disturbance in the lecture room, or interrupt the lesson, etc. I therefore tried with all my will power to come to myself again and into the real world; this I soon succeeded in doing. I do not think that I missed one phrase spoken by M. F., although I was too perturbed during this spell to take notice of what he was saying. As soon as I came to myself I picked up the trend of my notes in which very little of the lecture is missing and I calculate that the spell must have lasted not longer than one minute.

This was not followed by anything serious, as I feared it would, and the spell has not been repeated up to this date (July, 1900).

Wishing to explain to myself this phenomenon I tried to discover whether analogous cases had been published. Reading Dr. Bernard Leroy's thesis on Illusions of False Recognition* I discovered that I had often had, especially when a child, phenomena of *paramnesia* or impressions of the *already seen* or *already lived*, that is to say, a sensation similar to the one which Dickens mentions, as quoted by Bernard Leroy. Tolstoi has described this well in *Voïna i Mir*.

I was about fifteen years old when I first read the latter work and I found that many sensations described there were analogous to my own, which I had regarded as being normal. As an example I might cite the following: I learned to read when I was three years old and the Russian letter Y evoked in me the representation of my nurse; whenever I looked at that letter I saw my nurse. These things seemed to me to be perfectly natural and common, and I attached no importance to them. It is only now, when the incident that forms the subject matter of this paper has taken place, that my attention is drawn to what happened years ago.

I have also had paramnesia in my dreams, by reason of their repetition, as in the case of Natasha described by Tolstoi.

When I was about thirty, I sustained a severe nervous shock that caused an intense moral emotion for some two years; this was followed by an attack of neurasthenia that lasted two years and a half. During that time I experienced at intervals the following impressions: I imagined that I was witness to an exhibition or performance, involuntary on my part, of my own acts, movements and thoughts; it seemed as if they came from some

* Thèse de Méd. de Paris, 1898.

other person, that I was a spectator apart, in no relation with the rest of the world; all objects had lost their natural aspect, everything looked strange and astonishing. Often, I imagined myself witnessing a dream or living through the scenes which I had read in a novel long ago, the personages and objects seeming to be far in the distance. When anyone spoke to me at such times I had great difficulty, even when trying with all my power, to awaken to the reality of things. I felt as if I were about to faint.

At times this double existence was even more marked; it was accompanied by a condition of profound apathy and it seemed to me that nothing could astonish me, that I could never again have the sensations of either joy or pain and that if a great misfortune should befall me I would feel it not as an interested person but as a reasoning witness.

During my illness I also suffered from fear of noises, which caused me convulsive tics. I trembled at sudden noises.

At the time of the occurrence of the *immediate foresight* I was in better condition than I had been during the previous two years and a half. Besides, I was never ill before this illness, excepting with the infantile diseases and two attacks of diphtheria.

What can be the origin of the phenomenon I have described? The external conditions under which it took place are well defined. The lecture room where M. F. gave the lesson was over-crowded to suffocation. It was about after the first half hour of the lesson that the incident took place.

But it is more difficult to explain the form of the illusion to which I was subject. I insist on the fact that the illusion was not a false memory or a false recognition. False memory approaches in some respects the feeling that I experienced, excepting that the feeling was the major element of the phenomenon and was not accompanied by paramnesia: I knew what M. F. was going to say, but not as if I *recalled* the words, for I felt all the while that the subject he was discussing was foreign to me.

This is to say that the various theories put forward to explain the illusion of the *already seen* cannot serve to explain what was happening in my case. MM. Lapie¹ and Bozzano,² for instance, believe that paramnesia is the result of dream combinations brought into effect. This hypothesis explains well the case cited by Bozzano himself or that of M. Hannais³, but it cannot be

¹ *Rev. philos.* XXXVII., 1894, quoted by B. LEROY, op. cit., p. 77.

² BOZZANO, La paramnésie et les rêves prémonitoires, *Revue des études psychiques*, 1901, p. 57 and 109.

³ Cited in *The Unknown*, by FLAMMARION, p. 530.

applied to my case, which is rather one of *promnesia* than *paramnesia*. The hypotheses by Wigam and Anjel cannot be applied here, either. That of Lalande, who makes telepathy an intervening element, cannot be accepted, unless all other means failed to serve the purpose. The other theories explain the phenomenon of recognition which characterizes paramnesia; but I shall not examine those here, for what is distinctive of my case is precisely the absence of recognition.

One might build the following hypothesis: I was a victim of illusions which made me think that I foresaw M. F.'s words, whereas in reality it was only the general *meaning* of the lesson which pervaded my mind that brought about what I have stated; that I made, myself, an induction of what the professor was about to say and thus imagined that I knew beforehand what he would say. I do not think, however, that this was the case, for I always think in the Russian language as well as take down lectures in it. The words pronounced by M. F. in French could not, therefore, have appeared to me to be a repetition of my mental language, formulated in Russian.

It may be supposed also that by reason of fatigue or poisoning by the vitiated air of which I have spoken, a condition of automatism of the cerebral centres was brought about for a few seconds; that the words spoken were tardy in reaching my consciousness in the form of words heard, and that, on the other hand, they excited my centre of verbal articulation, so that I was pronouncing M. F.'s words at the time when I heard them, or just before. It is known, indeed, that functional cortical disturbances favor the occurrence of automatism. This mechanism, if other facts permitted its verification, would explain, it seems, the illusion of *immediate foresight*.

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SCIENCE VS. SECRECY.

While the promulgation of scientific information is the main aim of this Journal, and while it is the intention of the editors to limit the reading matter, so far as is possible, to scientific information, it appears necessary to make some comment on the administration of governmental functions, in so far as they relate to the institutions for the insane.

The crying evil of the day so far as those institutions are concerned, is the almost impenetrable barricade which rears its frowning head at the entrance doors of every institution for the insane, hiding its faults and defects behind the veil of sentimentality, obscuring the perspective after the manner of the cuttle fish. By an expert manipulation, the unsatisfactory condition of the various public institutions has been placed in a dignified position of security, by drawing the curtain of mystery over the life within the walls of the institutions. Hypocritically raising its hands in horror at the mere mention of publicity, the cult of secret administration has managed to carry on its existence by dint of constant iteration of the shibboleth:—"sacredness of the individual."

The hospital for the insane has not followed the progressive example of the general hospital. It is only a short while since sickness of every kind was adjudged a disgrace, and sometimes a

crime. With civilization and the spread of knowledge, more humane treatment and consideration of the sick came into vogue, and the hospitals were thrown open to students and to scientists alike, and incidently became open to the public gaze. Those who benefit by the present administration of the institutions for the insane, however, have thus far managed to keep them in that mediæval stage of obscurity which so ill comports with the progressive and common-sense ideas of to-day. The scientist in search of material for earnest work is met at the portals of the asylums with an emphatic negative. The forbidding frown of the administrative bodies warns off the student who would fain enter the house of the afflicted for the purpose of earnest study and investigation. No helping hand is stretched out to welcome the scientist who would devote his time to the study and perhaps amelioration of the condition of the unfortunates housed within the walls of the institutions. Under one pretext or another—by playing the variations—as has before been said, on the sorry tune of “privacy,” “sacredness of personal rights,” and all the other discredited and antiquated apologies of the crafty, the sympathy of the public is gained and perverted, to its own injury and loss.

It must be understood once and for all time that the opening of the institutions for the insane to the visits of students and scholars would not be a violation of personal privileges. The student and the scientist are not curiosity seekers, who come to watch the antics of the demented. These scholars are men and women who are moved by a noble impulse to devote themselves to a hard and thankless task. To place obstacles in their way is an indignity, and no amount of specious pleading can change this fact. Believing in these principles, it will become the province of this Journal to carefully and considerately examine the workings of every system of administration in the field of the institutions for the insane, and to give them that consideration which they deserve. Plainly speaking, we believe the time has arrived when greed and ignorance should cease enjoying that unmolested sway in the administration of the public institutions for the treatment of the psychopathically afflicted which has hitherto been almost a prerogative with them.

Need argument be adduced to prove the invaluable moral support that the student and physician brings to his patient by an occasional visit from without, be that visit ever so short in duration? Need one remind those who would keep the asylum closed to the outside student in psychiatry that the brightest hours of the insane are those spent in conversation with the physician who is an “outsider,” with that physician whose daily contact with

the world keeps him in a more responsive mood to the patient's recitals of his delusional sufferings?

We read with admiration the narratives of the devotion displayed by the noted psychiatrists the world over, of the *personal* attentions to patients, such as Falret, Esquirol and others displayed in their wards, but some of our own authorities, whose presumable duty as public servants is that of encouraging the workers in psychiatry to follow in the footsteps of our celebrated masters, lead one to infer that they consider themselves quit of all duty after the dead psychiatrists' deeds have been brought to mind and properly admired.

The doors of the institutions for the insane should be thrown open to students and scientists. It may not be possible for us to see the arrival of the day when this condition will be an accomplished fact, but we trust to do some small service that will help to accomplish this end at some time in the future.

We intend to do what little we can to force open to science the hitherto sealed doors of the institutions for the insane.

We publish in this issue under the title "Heredity and Poetic Talent" an abstract of a scientific research on the denomination of the heredity of poets. The investigation has been made by a well known German author, Dr. Mobius, and we are justified in accepting his conclusions as being final. According to this author, every man of vast intellect and poetic prodigality owed his natural gifts to his mother—never to his father. Silly women never give birth to sons of intellect.

Strengthened by this biological truth, the girl who wishes she "were a man" should resort to the prerogative of her sex and "change her mind."

COMMUNICATION.

DR. SELDEN H. TALCOTT, of the Middletown State Homeopathic Hospital, N. Y., writes:

My Dear Doctor—In the November number of the JOURNAL OF MENTAL PATHOLOGY you refer, very kindly, to our administering bed-treatment for the violent insane. This mode of treatment has been in practice in this hospital continuously since February, 1879, a period of more than twenty-two years. I take pleasure in sending you a copy of our sixteenth annual report, and on pages nineteen and twenty you will find a brief account of "*Hospital Treatment for the Insane*." Bed-treatment for mental invalids has been extolled in several other annual reports of this institution.

EXTRACT FROM THE REPORT :

For several years we have adopted the plan of placing our patients in bed for treatment, and sometimes this treatment has been continued, in individual cases, for several months in succession. Of course we should exercise a reasonable discrimination as to the classes of patients which should be selected for the purpose of bed treatment. We have been most successful in thus treating cases of acute mania, of acute melancholia, of primary dementia, and of affording relief to general paretics, and to all patients suffering with physical exhaustion, and tendencies to heart failure.

It is surprising to observe the quieting effects which follow this method of treatment in cases of acute mania. By placing such patients in bed, in suitable hospital rooms, by watching the patient carefully night and day, and by encouraging them to rest (just as we encourage a typhoid fever patient to remain quiet), and by furnishing an abundance of suitable food, to supply with needed nutriment the worn, exhausted and irritated tissue of the body, we have in a short time a quiet and self-controlled patient. These same cases of acute mania, if allowed to be up and dressed, and moving about in the wards, will continue for weeks and months in a state of elaborate and unrestrained excitement. They remain devoid of self-control and constantly exercising, regardless of the need for rest, until, worn and wasted, they pass with remarkable directness into the sad and hopeless realm of dementia.

Having tried the plan of allowing acute mania cases to take all the exercise they could, and having been somewhat discouraged by the results of such treatment, we passed gradually to the plan of treating such patients with rest and an abundance of liquid food, and with steadily-increasing good results. We feel now a reasonable satisfaction and confidence in this method, and shall, therefore, continue it until we can find a better.

Through the erection of new day-rooms, we have been enabled to enlarge and improve our hospital accommodations by using the dormitories and day-rooms in part for these purposes.

Another advantage of hospital treatment is that we have been enabled to do away with the muff, the body strap, and all coercive measures of an unpleasant nature. Occasionally the padded mitten, or the protection sheet, or the body bandage may be wisely and beneficially applied. But even these are rarely necessary when our patients can be under the watchful eyes and gentle hands of trained and competent nurses both night and day. (This report was written in 1886.)

STUDY OF THE APHASIA PERSISTING DURING CONVALESCENCE AFTER EVACUATION OF BRAIN ABSCESS. — Dr. G. I. Walton makes the psychological report of Dr. Jack's case of a brain abscess due to suppurative middle ear disease. The patient was a newspaper reporter, 25 years of age; the left ear had troubled him for three years. There was a discharge last winter which ceased up to six months ago, when it reappeared. During the last six weeks he suffered with frontal headache, but there was no pain in the ear until two days before admission to the Infirmary, when he awoke from a sound sleep with a severe headache.

Examination showed a small amount of pus in the auditory canal. The walls of the canal were slightly swollen, but not especially tender to pressure. Landmarks of the drum membrane were obscured by swelling. The posterior segment of the drum was red and bulging. The mastoid was tender to touch over the tip and antrum, but not swollen.

Severe headache appeared in a few days. The mastoid tenderness, however, gradually disappeared as did that of the canal. The temperature fell from 101 F. (Aug. 1) and remained at 99 degrees F. for several days. Paracentesis of the drum was practiced and seven days later (Aug. 7), the patient had a chill and complained of intense frontal headache. The temperature quickly rose to 102 degrees F. There was no tenderness over the mastoid, but an operation was deemed necessary. An extradural operation was resorted to. The antrum was found filled with pus and softened bone with granulations and purulent matter were found. A generous cleansing of the middle fossa was made and the lateral sinus was also exposed about one inch in length.

The dura was normal in color and did not bulge; the middle ear was carefully curetted, removing the incus together with the masses of cholesteatoma.

For a few days after the operation the patient's symptoms improved. He then complained of severe frontal headache. On August 16, eight days after the operation, the patient was found in a comatose condition, pulling at the bed clothes. The temperature rose to 102 degrees F. and convulsions soon appeared in the hands and arms. Four hours later an intradural section was made over the squamous bone, upwards and for about 2 inches towards the occipital protuberance. The dura bulged out and on making the incision, over 4 ounces of pus were removed. During the few days following the operation the patient seemed to improve, but on August 18, his stupor seemed to increase, the discharge of pus also lessened in amount and on August 22, the patient was quite stupid, the temperature having risen. When aroused from his stupor, the patient appeared aphasic: when shown an object, he could not name it, although he could repeat its name when pronounced before him.

More perfect drainage was resorted to, and the patient improved rapidly with the free discharge of pus, making a perfect recovery towards September 12.

The principal details of the form of aphasia in this case are the following, as found on August 29 and 30:

The patient is right handed and there was no paralysis or disturbances of touch.

ACTIVITY OF AUDITORY WORD CENTRE AND GLOSSO KINES-
THETIC CENTRE WITH AFFERENT, COMMISSURAL AND EMISSIVE
FIBRES.—The patient has moderate deafness, but not sufficient to
materially impair his ability to hear ordinary conversation. He
understands simple speech, but the understanding of speech of
higher order is somewhat impaired; he does not appreciate, for
example, the meaning of the word “explosion.” When asked to
make an exact copy of the numerals “5 plus 5 equal 10,” he writes
“five plus five,” failing to appreciate the meaning of the words
“exact copy.” Spontaneous speech is somewhat impaired, wrong
words being substituted, such as *arm*, for *ear*. At times, meaning-
less words are used,—*fels*, for *wings*. “I don’t know why I should
be *theying* on that;” apparently meaning, “I don’t know why I
should fail on that” (alluding to his attempt to describe the man-
ner in which a bird flies). In naming the months of the year,
several are omitted at the first trial, although subsequently they
are perfectly named. When repeating sentences uttered before
him he substitutes a word for those spoken, like *plight* for *flight*,
or *say* for *slay*. He can carry a simple air, together with the
words, after being started, but cannot start it himself.

ACTIVITY OF THE VISUAL WORD CENTRE AND CHEIRO-KINES-
THETIC CENTRE WITH THEIR AFFERENT, COMMISSURAL AND
EMISSIVE FIBRES.—His sight is good. There is no homonymous
hemianopsia. He recognizes simple printed or written words, but
does not recognize moderately difficult ones. He can read his own
writing 15 minutes after it has been written, also simple words
without the aid of tracing them over (Kinesthesia). He recog-
nizes objects; can write spontaneously, with freedom, but substi-
tutes incorrect words and meaningless words with about the same
frequency that he substitutes them in speaking. For instance, he
writes “let in the bed very comfontable,” “glass of egg,” for egg
on toast and spells steak *stake*; for thermometer he writes *brothan*.
In writing the months of the year he leaves out less than he does
in naming them; half an hour later, when asked to name and write
the months again, he does both accurately and with equal facility.
He copies both written and printed words with an occasional mis-
use of a letter. He can copy numerals easily.

THE ASSOCIATED ACTIVITY OF THREE CENTRES, WITH COM-
MISSURES BETWEEN THE AUDITORY AND VISUAL WORD CENTRES
OR OTHER SETS OF AFFERENT AND EMISSIVE FIBRES.—Reads sim-
ple sentences aloud, but fails to read more difficult ones, some-
times interpolating wrong words, at times uttering mere jargon.
Can name at sight a pencil or watch, but fails to name a thermome-
ter (a few days previously could name none of these objects).

When the name of the thermometer is called out he can point correctly at the object.

In writing to dictation, "the eagle's flight is out of sight," he first spelled eagle wrong; on the second attempt he spells eagle correctly but writes, "The eagle's fly is out of *sight*," insisting that fly is correct, even after his attention is called to it.

Lichtheim's test was applied, with the result that the patient was unable to state, or to indicate by pressing the hand or otherwise, the number of syllables, for example, in the words thermometer, magazine and explosion, either on seeing them in print or hearing them spoken.

The case bears marked resemblance to that of Marie and Sinton, in which the autopsy bore out the diagnosis. The lesion in this case was doubtless, mainly, if not solely, limited to the temporal region.

This form of aphasia partakes of the character of Bastian's amnesia verbalis, resulting from lowered activity of the auditory word centre, as well as that of his commissural amnesia resulting from defective transmission of stimuli to and from that centre. It includes Wernicke's conduction aphasia, which denotes a break in the connection between the auditory and the kinesthetic centres, and is itself included in the comprehensive sensory aphasia of Oppenheim and others and the auditory sensory aphasia of Collins. That the auditory word centre was not entirely destroyed was shown by the fact that the patient understood ordinary command; that its function was impaired was shown by his inability to understand unusual words and sentences, as "state fair," "explosion;" also by his inability to reproduce spontaneously in conversation the desired word except of the simplest variety.

It is possible, in fact probable, that the auditory word centre itself was not involved in the encephalitis, but the moderate word deafness was due to impaired conduction of the afferent fibres conveying stimuli to that centre (subcortical sensory aphasia, pure sensory aphasia of Dejerine). The result of such lesions is obviously identical so far as understanding the speech of others is concerned. The diagnostic feature consists in the fact that if the afferent fibres only are affected, the patient can still speak spontaneously, because the centres and connecting fibres necessary for this function are intact. It might be inferred, then, that in this case the auditory centre was affected because the patient could not use spontaneous speech perfectly, but here we are met by the probability that the fibres connecting the temporal lobe with Broca's convolution were interrupted, a lesion in itself sufficient to prevent spontaneous speech.

Leaving out the difficulty in differentiating many important points, this study shows that we may differentiate the sensory from the motor forms of aphasia with some accuracy.

It seems probable that the fibres connecting the visual with the auditory centre were interrupted, for the patient found difficulty in reading aloud, and although he could recognize an object he could not recall its name. The fibres passing in the opposite direction were doubtless also interrupted, for he could not write difficult words from dictation. That the fibres passing from the auditory area to Broca's convolution were probably impaired is shown by the fact that although he could hear and, to a certain extent, interpret from hearing, he could not talk correctly (paraphasia).

To what extent these different structures were invaded it is impossible to determine. Probably the visual word centre was spared and the patient's inability to recognize certain words when he saw them was due to the inability to reproduce the sound of the word through its sight, that is, interruption of the fibres connecting the visual with the auditory word centre.

This case tends to corroborate the views originally held by Broca and Trousseau and later sustained by Wernicke, Dejerine, Collins and many others, that there is no writing centre in the sense of a centre in which are stored up the kinesthetic memories of written words, and capable of stimulation independent of Broca's convolution. The inability to write in this case was absolutely coincident with the patient's inability to talk. The words he could utter he could place upon paper; those which he could not—he utterly failed to write. When the auditory centre either failed to recall the memory of the sound of the word, or if remembered, to convey the stimulus properly to the kinesthetic speech centre, it failed also to communicate it to the centre for the movements of the hand. It is true that at the first trial he wrote the names of the months better than he pronounced them, but in order to do this he took time, and repeatedly scanned his list. The fact that half an hour later he was able also to say them, showed that there was really little to choose between the two defects. To one sustaining the views of Bastian, that the centre for hand movements is capable of being stimulated from the visual and auditory centres independently of Broca's convolution, it might be claimed that this case merely showed that the fibres to both the hand centre and to Broca's convolution were equally impaired. In view of the prevalence of similar cases, and of the dearth of definite cases of agraphia without aphasia, the prevailing opinion seems opposed to Bastian's theory. [In a recent article on "Cerebral Anesthesia," contributed to "Brain," the writer reports a case which might be cited as an

illustration of agraphia without aphasia. The patient, who suffered from a local cortical lesion accompanied by attacks of Jacksonian epilepsy, always commencing in the hand, had no defect of speech, but could only write by tracing the letters slowly as if learning them anew, although she had perfect control of the movements of the fingers. She had, however, equal difficulty in sewing, or performing any movements requiring the appreciation of the feeling of objects in the hands, nor could she name such objects with the eyes closed (astereognosis). The inability to write did not demonstrate, then, lesion of a special centre for writing, but was only a single sign of the loss of the kinesthetic hand memories (active touch) resulting from lesion of the psychological group of fibres and cells presiding over the stereognostic sense. The probable seat of the stereognostic sense for the hand is not far distant from that assigned by Bastian to the centre for writing memories, and it requires no great stretch of imagination to assume that the one includes the other.]

That the centres and fibres affected were not destroyed is shown by the complete recovery. The patient was examined two months later and no defect of speech could be elicited by the most searching examination. He performed his duties as a newspaper reporter as usual; he said, however, that on one occasion he found difficulty in spelling the words *jewel* and *yet*. It is reasonable to suppose that words like those, which are less readily acquired than others, are also less readily retained. (*The Boston Med. and Sur. Jour.*, Dec. 26, 1901.)

CONTRIBUTION TO THE STUDY OF THE MENTAL STRUCTURE OF HALLUCINATIONS.—DRS. VASCHIDE AND VURPAS arrived at the following conclusions from their study of the genesis of hallucinations in a hysterical subject during the wakeful and the hypnotic states:

A sensory spell, or, in other words, a mental spell, can co-exist with a very restrained field of consciousness.

A hallucination may take place during a condition of complete sensory anaesthesia, involving various categories of images and at times the entire mental activity. This fact is of importance and may serve to elucidate the question of the genesis and the nature of hallucinations.

It seems that hallucinations may exist more or less independently of sensory excitations.

Hallucinations may exist while the sensory field is in a condition of absolute distraction; they set in during the beginning of or the

awaking from hypnotic sleep as well as during the waking state. Certain hallucinations are due to sensory disturbances. Some artificial modifications enabled us to induce visual hallucinations in our patient.

It seems reasonable to distinguish two kinds of hallucinations; the first, due to functional disturbances or some sensory illusions, the others—to permanent central excitations (*Arch. di Psi., Sc. Pen. ed An. Crim.*, Vol. XXII, F. IV-V.

A CASE OF MENTAL AND NERVOUS DISTURBANCES DUE TO HEPATIC INTOXICATION.—DR. G. CATOLA reports an interesting case of marked mental and nervous disturbances which seemed to be due to no other cause than that of defective hepatic function: the post-mortem examination revealed extensive and marked impairment of the structure of the entire cerebrum; this accounted for the profound psychic as well as paralytic disturbances manifested during life; on examination of the viscera, all the organs, save the liver, were perfectly normal. The liver, however, was the seat of marked organic disintegration, every element having undergone a pathological change. The author concludes that the cerebral changes and the consequent psychic manifestations were the results of hepatic intoxication. He calls to mind the fact that Pinel and Esquirol believed that hepatic disturbances could produce hypochondria by reflex action; that other psychiatrists also insisted on the presence of hepatic disturbances in cases of melancholia. (*Rivista di Patologia Nervosa e Mentale*, Nov., 1901.)

K ANATOMII EPILEPTICHESKAVO SOSTOJANIA (ON THE QUESTION OF THE EPILEPTIC STATE).—DR. KOTSOVSKI makes a review of the extensive literature on this subject, and cites two cases of epilepsy with an autopsy in each case. Both cases died in *status epilepticus*. Commenting on the causes and pathology of epilepsy, the author concludes by saying that the various forms of the malady may be brought under the heading thus tabulated: Toxic epilepsy is a general disease; an epileptic condition is the result of a marked infection. Epilepsy of cortical origin may be functional or anatomical; *status epilepticus* is the result of local cerebral processes. This is given, of course, as a schematic table. The main point desirable to bring to light is the fact that many cases of epileptic condition have an anatomical basis which explains sufficiently the morbid appearance. (*Journal S. S. Korsakova*, No. 4, 1901.)

CEREBRAL ABSCESS FOLLOWING CHRONIC OTORRHEA, EPILEPSY OF 14 YEARS' STANDING. TREPHINING FOLLOWED BY RECOVERY.—DR. GORIS

reports this case. The patient is 23 years of age; he has been subject to epileptic attacks since he was nine years of age—according to information given by the mother—and to chronic otorrhea since he was 13 years of age. On June 22, the patient suffered intense headache and an examination of the seat of trouble made it apparent that an operation was necessary at once; trephining of the mastoid process was resorted to and a large cholesteatoma was removed, a temporary amelioration of the patient's condition following. On July 30, there was an acute exacerbation of meningeal nature, intense headache and vomiting dominating the scene; a severe epileptic attack took place, but the seizure had none of the characteristics of a Jacksonian epilepsy. The incision was made on a vertical line passing through the axis of the auditory canal and on a plane directly above the roof of that canal. The dura mater bulged out as soon as the incision was made; a large cerebral abscess was found, holding 25 cc. of pus. The patient remained in a condition of torpor during the two days following the operation but his mind remained clear. From the day of the operation to the time when this report is made, three months after the operation, the patient has been entirely free from the usual epileptic attacks. The author concludes that it is reasonable to suppose that the epileptic attacks set in after the chronic otorrhea took place. (*Jour. de Chir. et Ann. de la Soc. Balge de Chir.*, Nov.-Dec., 1901.)

ANOMALIES DU POLYGONE ARTERIEL DE WILLIS CHEZ LES CRIMINELS EN RAPPORT AUX ALTERATIONS DU CERVEAU ET DU COEUR.—Dr. CH. PARNISETTI made a study of anomalies of the circle of Willis in the brains of various criminals, homicides, assassins, thieves, highway robbers and others. He tabulates the results of his investigations and the following are the conclusions:

In the criminals, the circle of Willis presented anomalies of origin, development and course in 65.51 per cent. of the cases examined. On the left side, these anomalies were observed in 32.18 per cent. of the cases.

The cerebral tissue is influenced by these vascular defects and a decreased nutrition results therefrom; this may be accompanied by inferior organization of the nervous centres and consequent phenomena of arrest of development and manifestation of degeneracy.

The criminals' brains were found to be deficient in weight in 73.56 per cent.; in 51.72 per cent. of the latter there were anomalies of the circle of Willis, as well as anatomo-pathological changes of the meninges, the cerebral substance and the blood vessels; there was also anæmia or hyperaemia of the meninges, ventricular effusion, atheromatous foci, softening, etc.

The cardiac development seems to be intimately connected with that of the circle of Willis.

In 75.86 per cent., the weight of the heart was below par and 49.42 per cent. of the above corresponded to the anomalies of the circle of Willis; the grosser organic lesions of the cardio-vascular system, such as cardiac atrophy, vascular insufficiency and left ventricular hyperaemia, ran hand in hand with the other anomalies enumerated above. (Fifth International Congress of Criminal Anthropology, Amsterdam, 1901.)

THE WORKING OF THE INEBRIATES ACT.—DR. CARSWELL, in a paper bearing this title, states that it is desirable to have this act changed so that the medical authorities of institutions for inebriates should have the power of detaining the subjects for an indefinite period of time, according to individual requirements; better results might thus be obtained than are now possible when the subjects are returned to their vicious life and surroundings as soon as the urgent signs of the intoxication are abated. (*The Journal of Mental Science*, October, 1901.)

PHTHISIS AND INSANITY.—DR. TH. DRAPES made an elaborate study of this subject and concludes that if phthisis is found to cause death in a large number of cases in asylums, the reason is a simple one: the breeding of this disease is encouraged by unhygienic ways, such as draperies, carpets and other articles used for furnishing the asylum rooms. He suggests that bare floors and the absence of curtains would be preferable in asylums. An elaborate table shows how much greater the mortality from phthisis is in the insane than in the sane, at given periods of life. (*The Journal of Mental Science*, October, 1901.)

ON THE FAVORABLE RESULTS OF TRANSFERENCE OF INSANE PATIENTS FROM ONE ASYLUM TO ANOTHER. — **DR. A. R. URQUHART** states that from his experience patients benefit greatly by being transferred from one asylum to another at judicious intervals of time. In chronic cases this method is particularly to be utilised. From a statistical study of a number of cases during a period of 20 years

the doctor concludes that one can justifiably claim 11 per cent. of recoveries as due directly to this method.

We attach much value to the improvement obtained in 5 per cent. of the cases treated with a thyroid gland extract, and yet we pay little attention to a larger per centage of improvements obtained by transferring patients from one institution to another. (*Journal of Mental Science*, October, 1901.)

THE CEREBRAL LOCALIZATION OF MELANCHOLIA.—

DR. BERNARD HOLLANDER cites numerous cases in support of the idea that there is some relation between lesions of the angular and supra-marginal gyri and the manifestation of melancholia. He concludes that:

I.—All the evidence produced in the paper points to the fact that there is a certain relation between the central area of the parietal lobe, namely the angular and supra-marginal gyri, and the melancholic state of mind.

This is demonstrated by over fifty cases of injury to the parietal tuberosity or its neighborhood, which were severe enough to affect the brain or its membranes, and from the fact that half of these cases recovered under surgical operations.

It is demonstrated by the mental symptoms accompanying tumors growing in, and limited to, this area.

It is demonstrated by the effects of inflammatory disease limited to this region.

It is demonstrated by the idiopathic haemorrhage sometimes occurring under the parietal protuberance (subsequently forming false membranes or cysts) after sudden fright, severe mental shock, or other depressing emotional disturbances, or in mental disease ushered in by an attack of melancholia.

It is demonstrated that the symptomatic atrophy, frequently observed as taking place in the parietal protuberance, is due to a trophic change accompanying a melancholic state of the patient.

Cranial disease affecting this brain area, and congenital abnormal development thereof, may also originate melancholia.

II.—It is argued that simple melancholia has as its basis a morbid condition of the emotion of fear. This emotion, though all-pervading, must take its start in a limited portion of the brain, which area, when fear is manifested morbidly, as in the different degrees of melancholia, must betoken lesion. Experimental and anatomical evidence is adduced showing that:

(a) The physical expression of fear and its related states can be produced in animals by the excitation of the central parietal area.

(b) That this same area has a close connection with the sympathetic nervous system and the vaso-motor nerves, which are both affected in melancholia.

(c) That in lesions of this area rise of blood pressure, alterations of sensibility, disturbances of vision, and cortical blindness may accompany the melancholic state. (*The Journal of Mental Science*, July, 1901.)

PHYSICAL AND MORAL INSENSIBILITY IN THE CRIMINAL. — DR. W. N. EAST summarizes his researches thus: The normal individual has more acute moral and physical sensibility than the criminal.

Considered as classes, the accidental, occasional and professional criminal represent three degrees of moral insensibility.

The difference between the moral insensibility of the accidental and occasional is greater than that between the occasional and professional.

The difference between the insensibility of the accidental and occasional is less than that between the occasional and professional.

The influence of education on moral or physical insensibility appears to be unimportant.

Those who commit crime against the person, commonly passion-crimes, have least moral and physical insensibility.

Those who commit crimes against distant property, commonly intellect crimes, have more moral and physical insensibility.

Those who commit crimes against near property, and sexual crimes, have still more moral and physical insensibility.

Sensations are impaired in the criminal—that is, the number of conscious elements are less than in the normal human adult; the number of perceptions possible to the criminal are less, and so the ideas of the criminal mind are less than in the mind of the normal human adult. A mind lacking in ideas is a mind presenting some enfeeblement; the evidence of this enfeeblement is most commonly expressed in the criminal by deficient moral sensibility. (*Journal of Mental Science*, October, 1901.)

DISTURBANCES OF SPEECH IN MALARIA.—DR. TIKANADZE reports three cases of disturbance of speech which seemed to have been due to malarial infection. He concludes in the *Bol. Gaz. Bot.*, Nos. 13, 14, 1901, that:

The speech disturbances observed during the course of malaria are essentially of the form of ataxic aphasia.

Simple embarrassment of speech and stuttering are comparatively rare.

These disturbances are found preferably in the pernicious forms of malaria; the trouble takes place generally at the onset of or during an attack, but rarely after it.

Malarial aphasia is more frequent in man than it is in woman.

It is often accompanied by paralysis, is transitory in nature, of short duration and the prognosis is favorable. (*La Med. Marital*, December, 1901.)

HEREDITY AND POETIC TALENT.—Report of M. MOBIUS'S WORK.—M. CHASLIN made the report to the Medico-psychological Society of Paris.—The poetic talent is congenital; education has never created a poet. How does heredity manifest itself? In mathematicians, mechanicians, musicians and sculptors, the heredity is generally homologous and almost always on the *paternal* side. This is rare in poets. In the history of poets one seldom finds the same name repeated; when this is the case the bearers of the names are brothers.

The great poets, as Goethe, Schiller, Burger and Byron, are solitaires in their families. If their fathers or sons were poets, we are unaware of the fact. One must search in the mother for the germ of the poetic talent. The intellectual faculties of the mother are of paramount consequence to the poet. This is true also when the poet is a woman. The author cites cases showing that both mother and daughter were equally gifted and renowned in this direction; this fact never happens where other artistic talents are concerned.

This truth would tend to bring the poet nearer the superior intelligence than the artist. Men of vast intelligence are always sons of capable women. Silly women have silly sons. (*Annales Medico-psychol.*, No. 3, 1901).

PSYCHIC TREATMENT.—DR. E. C. BUNGE, Superintendent of the St. Louis Insane Asylum, writes an interesting paper under the above title. With the experience of an interested psychiatrist, he pleads in earnest terms for the adoption of a simple method of treatment for the insane; that method consists of individual demonstration of interest in every case separately. While the method he recommends is simple, its performance is not easy; it requires an untiring perseverance on the part of the physician and a sincere devotion to the patient that can be demonstrated by those only who appreciate the dignity of the duty they are called on to perform. The psychic treatment consists of the demonstration of personal interest in the patient's amusements, works, talks, walks, entertainments, etc. The inmates must be treated as nearly like sane people as the circumstances permit, making the sufferers feel that they are not cut off from the world entirely. Visits from outsiders, ex-patients and other sympathetic persons are encouraged to the great advantage of the patient. Excursions to theatres, concerts, promenade trips outside the asylum walls and occasional visits to the people at home by the patients have given gratifying results. The author advocates the idea that patients be given a certain monetary remuneration for the work they perform in the asylums. Such a method of treating patients' labor would tend to instill interest in the tasks and would make the work a useful psycho-therapeutic agent. (*American Journal of Insanity*, October, 1901).

THE TREATMENT OF DEAFNESS BY SONOROUS VIBRATIONS.—M. MARAGE publishes a communication relative to the treatment of deafness; the exact acuteness of hearing is determined and a vibratory massage is practiced by transmitting to the ear the fundamental vibrations of the vowels; the vibrations are produced by a sirene, through

the intermediary of a membrane that neither adds nor suppresses any harmonics. The author has obtained good results in 37 cases of deafness that followed catarrhal otitis, otorrhea or sclerous otitis; in four cases there existed, in addition to the organic trouble, nervous deafness, Meniere's vertigo, and dumbness. This treatment is free from harmful results; it diminishes the dizziness from the start and seems even to arrest the progress of sclerous otitis. (*Progres Med.*, December 7, 1901.)

ABNORMAL BRAIN DEVELOPMENT.—DR. H. C. EYMAN develops the theme implied in this title with arguments free from anatomical demonstrations. He calls attention to a couple of families whose generic development is instructive to the student of psychiatry. The heads of the respective families are Margaret Jukes and Jonathan Edwards. Margaret Jukes embraced a life of profligacy and her descendants, within the course of one hundred and seventy years, had cost the communities in which they lived \$1,250,000 as criminals and paupers. Three hundred and ten of the descendants had spent their days as public charges; one hundred and fifty were victims of loathsome diseases, sixty were professional thieves, and fifty women had led degraded lives. Only twenty of those descendants had learned trades; ten of these had acquired the knowledge of handicraft in prisons. The record of the good citizen, Jonathan Edwards's descendants, is an extreme opposite in quality to the one above cited. The family counted two hundred and eighty-five college graduates, of whom sixty-five became professors in colleges and thirteen became college presidents; there were, besides, more than one hundred lawyers and thirty judges in that family. The author lays much stress on the influence of environment, although he admits that the latter is not an infallible remedy in all cases. (*American Journal of Insanity*, October, 1901.)

IS LEGAL RECOGNITION OF GRADUATED RESPONSIBILITY PRACTICABLE?—DR. A. B. RICHARDSON is of the opinion that the cases of defective morality committing major crimes should be examined more closely for legal purposes than they are to-day, and that they should be punished with the view of securing to society safety from their repeated criminal acts. He cites an example of a morally defective subject who attempted homicide on a woman who refused to accept him in conjugal ties; the attempt was made with a pen knife and in a manner indicative that the would-be assassin was an imbecile. The author thinks that in a case like this the judge should not be lenient in the meting out of punishment; on the contrary, such an individual should be isolated from society indefinitely, as the low mental and moral standard which prompted him to commit a first crime will certainly actuate him in the same direction on future occasions. The nature of the institution in which such subjects should be confined can easily be decided according to the individual offenders. (*American Journal of Insanity*, October, 1901.)

BOOK REVIEWS.

LE CRIME DANS LA FAMILLE.—PAR LOUIS ALBANEL, *Docteur en Droit, Juge d'Instruction au Tribunal de la Seine. J. Rueff, Paris.* Considering the contents of the volume, one feels tempted to repeat part of the stanza by Victor Hugo

(from "Les enfants pauvres") with which the preface of this work opens:

Prenez garde à ce petit être,
Il est bien grand, il contient Dieu.

The subject matter of this work is criminality, and as may be inferred from the quotation—essentially juvenile criminality. Although the subject is handled with the philosophic seriousness that the question requires, one cannot mistake that the supreme note here is that of humaneness. The author asks: Why does crime exist? What are its causes? Can they be eradicated? What are the remedies?

In the first chapters the parents—their individual, social and sociological conditions are analyzed; the children are studied next from the same standpoints. Parental correction and correctional education are treated of next and the work is concluded by instructive chapters on the preservation of normal childhood through Governmental intervention, and the reforms required to attain the desired end.

Six hundred families who have passed through the judge's hands are analyzed individually in the relations mentioned above and although the study is technical to a marked degree, the coloring of the life of those subjects is so vivid that the reader feels as if the life of Gavroche were being depicted many times over. The narrative of the life of these juveniles in the model reformatory at Mettray—their industry, application and transformation towards the better, supplies a goodly amount of material for thought anent the present state of sociology.

A society (Patronage Familial) was founded in 1900 with the view of extending all available assistance to needy children.

VORLESUNGEN UBER PSYCHOPATHOLOGIE IN IHRER BEDEUTUNG FÜR DIE NORMALE PSYCHOLOGIE MIT EINSCHLUSS DER PSYCHOLOGISCHEN GRUNDLAGEN DER ERKENNTISTHEORIE.—GUSTAV STORRING, *Dr. Phil. et Med., Privadozent der Philosophie an der Universität, Leipzig.* Mit Figuren im Text. Verlag von Wilhelm Engelmann, Leipzig, 1900.—The psychopathic manifestations are considered in their relation to normal psychology. The question of whether the physical condition has an intimate influence on the mental manifestations or whether, on the contrary, the mental condition brings about certain physiological states of the organs, is considered at length. Lange asks: When I am threatened with danger, at a pistol's point, and I shudder with fright, my heart beating fast,—is it the mental state that brings about my

physical condition, or is it that the physical condition precedes the mental state, or,—is there any relation between the two manifestations at all? There are certain substances which act on the organism in such a manner that the psychic and accompanying physical effects are quite analogous yet individually independent. Alcohol, for instance, in its initial stage of action, causes mental exhilaration and an accompanying increase of the cardiac beats, a dilated vaso-motor condition, a heightened cerebral blood supply, etc. In this case, the fact is certainly evident that there is no absolute necessity for the joint influence of mind on body, or vice versa, as the vaso-motor condition here is not dependent on the mental influence. Similar instances can be observed in the effects produced by opium, hashish, morphine, ipecacuanha, the bromides, etc. Lange holds that mental manifestations are intimately related to physical conditions, but this is a question that can be contradicted by many facts, although some cases with disturbances of general sensibility prove the truth of this supposition. Delusions, hallucinations, illusions and delusional interpretations are considered in their relation to normal psychology, and numerous classical cases are cited and analysed in the same relation. The book is replete with interesting studies. It has 468 pages.

DIE BEHANDLUNG IDIOTISCHER UND IMBECILLER KINDER IN ARZTLICHER UND PEDAGOGISCHER BEZIEHUNG. —VON WILHELM WEYGANDT, *Dr. Phil. et Med., Privatdozent an der Univ. Wurzburg, Specialarzt für Nervenkrankheiten und Psychiatrie.* Mit 2 Abbildungen. *A Struber's Verlag.* Wurzburg. The author considers the classification of idiocy and imbecility, passes in review the defects of the special senses which so often accompany the two diseases, and devotes special attention to the consideration of the psycho-pedagogic treatment of these subjects. The author's familiarity with the institutions and methods for this kind of patients adds much value to his effort. The volume consists of 103 pages.

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LA PSYCHOLOGIE ETHNIQUE. CH. LETOURNEAU, *Secrétaire général de la société d'anthropologie, Professeur à l'école d'anthropologie. Schleicher freres, Paris, 1901.*

SOUKHANOFF. LA THEORIE DES NEURONES EN RAPPORT AVEC QUELQUES ETATS PSYCHIQUES NORMAUX ET PATHOLOGIQUES.

SOUKHANOFF. L'ANATOMIE PATHOLOGIQUE DE LA CELLULE NERVEUSE EN RAPPORT AVEC L'ATROPHIE VARIABLE DES DENDRITES DE L'ECORCE CEREBRALE.

SOUKHANOFF. CONTRIBUTION A L'ETUDE DES MODIFICATIONS QUE SUBISSENT LES PROLONGEMENTS DENDRITIQUES DES CELLULES NERVEUSES SOUS L'INFLUENCE DES NARCOTIQUES.

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SANO. LA LOI SUR LE REGIME DES ALIENES.

" FEN ALGEMEEN PLAN VAN HET ZENUWSTELSEL.

" OVER KRANKZINNIGEN-VERPLEGING IN GROOTE STEDEN.

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No. 2.

ON THE MENTAL ANALYSIS.

BY N. VASCHIDE, Chef des Travaux, Laboratory Exp. Psychol., School
of Higher Studies,
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Cl. VURPAS, Physician, Asylums of the Seine.

We have elsewhere (1) attempted to describe the role of mental analysis as applied to certain psychopathic disturbances. When applied by the subject to himself, this analysis led up systematically to a variety of morbid disturbances described under the name of delirium of introspection, somatic or mental; when applied by the subject to his surroundings, the delirium of introspection is engrossed by one of metaphysical nature. In those studies we analyzed the mechanism of the psychic disturbances; we brought to light the mode of formation of the delirium and their mechanism. This particular side of the question, although most important in the matter of the understanding of the morbid psychic construction, is, nevertheless, insufficient as an explanation of all the conditions of the phenomenon; for, we thus study the mechanism of the pathological construction only, leaving out the deep causes, the knowledge of which could aid in determining the criterion, by which one could differentiate a delirious construction from that of a genius or of other high standard. In our former studies we have described the conditions which surrounded the development of the delirious disturbances, but we have not insisted sufficiently on the conditions under which all the morbid psychological constructions developed and evolved. The few considerations on this question are disseminated here and there, but they are not united and synthetised so as to bring them to light as their importance deserves; these considerations elucidate the genesis and the conditions of psychological development and construction of the system in the delirium. In the present study we endeavor to bring those points to light and to make clear their pathological significance.

II. We wish to remark first of all that the construction of a delirium requires more than a simple exaggerated mental analysis

pushed to excess. It seems that conceptions of import differ from trivial ones in the degree of mental analysis and the sagacity that the author or subject exhibits; the mental analysis is, therefore, the condition of progress in the intellectual domain, but not the cause of more or less profound psychopathic disturbance. In this condition there is an element of primordial importance which distinguishes the conception of high order from that of delusional nature; and if the exterior aspect of the mental analysis seems to enter into play in both instances, there is, nevertheless, a capital difference between the psychological conditions under which the development of the mental construction is brought into effect—the psychic orientation is totally different in the two instances. This difference of mental orientation in both cases constitutes, to our thinking, the true distinction between the two conditions so different from each other.

We do not need to cite individual cases here in order to illustrate our arguments; the cases to which we shall refer are frequent in occurrence and well familiar to the student of psychiatry; he can recall from his own experience the necessary examples to which we shall here allude.

III. Let us study the mental status which accompanies the onset and the evolution of the various delirii. We exclude here purposely the psychopathic disturbances dependent on gross anatomical or congenital lesions as found, for instance, in the general paralytic, the various dementes, those with circumscribed lesions, the idiots or the imbeciles. With the exclusion of these few morbid categories, the other various psychic disturbances seem to us to be under the dependence of the same psychological process, which is a *mental distraction and disorientation*.

It is important to define well what we understand under the term distraction. In a work on *The Psychological Disturbances Consequent on Artificial Hallucinations* we said that: (2) "During the so-called normal state, the mental condition of G., one of our subjects, presents pretty nearly the same degree of attention found in the normal subject. But an intense mental image, an ideation which exteriorizes itself, destroys the power of attention, the moral synthesis being directed instantly toward that image and adapting itself intimately to it. This imposed image occupies the consciousness and brings about a state of distraction when the hallucination is of an average intensity. When the hallucination is very intense, however, the state of distraction is replaced by a true condition of mental confusion. This experiment, enabling us to make such a near approach of those two psychic states, seems to shed some light on the mechanism and the mental structure which

govern the state of confusion. The induced ideation is rapidly adopted, and as the distraction grows in intensity the subject ends by believing in the reality of the image. In the course of a hallucination, the image imposes, so to speak, through ideation that it evokes, either an arrest of thought,—an arrest of the faculty of recollection, and with the increased intensity of the hallucination, the distraction leads to the evolution of a state of confusion; this state is nothing else than the highest expression of a hallucination, a state in which the images rapidly succeed one another, fluttering about the object of the evoked hallucination. The co-existence of the images becomes more and more blunted, whereas the psychic erethism increases progressively.

What characterizes, in the first place, the mental condition of the delirious subject is a state of distraction in which he is plunged and which is most apparent. It seems that the external world has not the usual effect on him. Events and persons make less intense impressions on him and the effects differ from those in the normal state. The subject is more indifferent to the events of life which concern him and he is more credulous than usual, avoiding less the numerous difficulties of life. This distraction may spring from several mechanisms. In certain instances it depends on more or less definite psycho-physical causes, as seen, for instance, in cases of poisoning by various agents—Hashish or Morphine, or in the various forms of toxi-infections; these conditions may be compared to those observed during sleep. Outside of the yet undetermined psychophysiological causes of sleep, if one studies the psychological conditions under which it takes place, it is seen that it consists of a condition of profound distraction, particularly of a sensory distraction, as well as in a distraction of judgment, comparison and guidance. It seems that a distraction of the same kind is found in the conditions of the various toxi-infections, which, without being quite as pronounced in degree, appear to be of the same psychological stamp.

There are, besides these toxi-infectious conditions, other psychological states which may end in similar results; these states are those which are consecutive to various mental disturbances. On the occasion of some powerful emotion, whatever the cause may be (external and dependent on social surroundings, or subjective and causing a psychic concussion), this emotion which astonishes or shocks the subject brings about by its intensity and the place which it occupies in the field of consciousness a true mental disorientation as well as a polarization of the mind on a special and well defined point. There one sees that now the coefficient of emotion is so intense that the subject remains astonished and in a

condition of mental disorientation and distraction which has struck him; this coefficient or mental emotion becomes so intense that it subjugates the representative coefficient of his mental images, so that he feels himself to be the plaything of the high coefficient of emotion of his intellectual states; now the subject simply loses all his points of habitual control and guidance, and every mental image that presents itself to his mind, of a whatever sufficient degree of intensity, becomes a pivot or a theme about which he builds and constructs more or less intense and durable delirious conceptions. The last mental image will be replaced by a new one every time that its intensity is higher than that of its predecessor and will be sufficiently marked to break the commenced psychic linking.

At times, the subject, finding himself in a disordered mental state, tries, like one bewildered by the tumultuous flow of thoughts which disturbs his consciousness, to reassure himself, and he then directs his investigations either on himself or on the external surroundings, in order to find there the cause of his mental distress.

As there is polarization of his mentality, the subject is incapable of control and of verification and cannot direct logically his investigations in the field which he has chosen or rather which has presented itself to him. All his investigations are directed hap-hazard at first, and on finding a certain path of reasoning he follows it with a perseverance which heightens sometimes his delirium so that it even becomes well systematized; but he is led up to this by accident, without comparison or verification, without any analysis of relation of facts, following out his ideas as such, not heeding the necessity for correcting their meaning by outside elements; he keeps on, without paying any attention to aught else than the more or less hypothetical conception to which he subjugates all other facts, these being considered as quite useless.

The subject is thus naturally led to making a psychological construction without any value or import; and although one finds in that reasoning a certain system, even well co-ordinate, indicating the path that the subject has chosen for directing his activity in the attempt to explain his position to himself, it is seen that the enterprise fails by reason of psychic disorientation caused by the polarization of his mental state, thrust into a given direction.

We have seen in what has been said that the most important part of this mental state was the distraction which could install itself in various ways in the minds of various subjects. This distraction was compared, in a general way, to the state of sleep. It can also be compared to hallucinations.

In another contribution we have shown that hallucinations depended on a condition of a particular distraction, causing a sort of

discontinuation in the life of the subject. The conditions accompanying the development of sleep represent admirably the psychological conditions favorable to the development of hallucinations. We know how frequent their occurrence is in that condition. The toxi-infectious disturbances reproduce very well the psycho-biological conditions of sleep; it is not astonishing, then, to find so frequently the occurrence of hallucinations in these psycho-physiological disturbances.

As for the delirii of more or less direct psychological causation, the conditions under which these mormid disturbances develop explain sufficiently the *raison d'être* and the conditions governing the production of the hallucinations so often observed in these psycho-pathic disturbances; the conclusions are in accord with the results of our previous works, in which we studied the genesis and the conditions of the production of hallucinations. We found that they depended on a condition of distraction of the mind—a veritable discontinuation in the mental life.

The condition of psychological disorientation,—distraction, which governs the evolution and the construction of the various delirii, as we shall see presently, explains perfectly well the frequent existence of hallucinations in all mental disturbances, as their cause and their conditions of psychological production are the same and spring from the same state.

These observations are in perfect accord with those noted so often by eminent and enlightened clinicians, to wit—that hallucinations did not precede the delirium, but were, on the contrary, consecutive to it, or, at the very least, evolved with it; in any case, they are not the basis, cause, or fundamental point of delirium, as certain authors had supposed. The first manner of looking at this subject seems to us the true one: First, there is a condition of distraction and mental disorientation,—a condition of psychological disarray. These conditions are eminently propitious for the development of a delirium and of hallucinations. We make it a point, however, that the delirium is the first to make its appearance, the hallucinations following after it; and, although consecutive in order, they help the development of the delirium by circumscribing it the more definitely; although both are evolving by reason of the same mental condition and under the same psychological status, one helps the other mutually, strengthening the subject's psychopathic conceptions.

IV. Generally speaking, mental activity is considered from a narrow point of view. The ancient conceptions of the correlation of mind and body have left their indelible traces in science and especially in medicine. The old epithets are simply re-

placed by modern terminology, the essential teaching remaining intact, indisputable. To be more explicit, it was taught that the intellect or soul acted independently of any physical evolution of the body. There was, in a word, a simple parallelism, prearranged according to certain laws. The various philosophical postulates which expressed them have been the subject of long discussions in times past; those discussions spring up with our modern doctrines, under different forms, but in the name of the same search for the logical. By way of opposition to the flow of the old doctrines, the domain and the influence of that mental life has been so narrowly restricted that it is almost confounded with some anatomical elements which the biological knowledge expounds and circumscribes more and more as constituting the physical "I."

Without stopping to bring history into this sketch, we simply state that to-day this mental activity is considered by a large number of authors as being a quantity which, if not nil, is, at any rate, of little weight in the changes and the composition of our "I,"—this unstable contrivance of which we seize only the motive of the symphony and the musical chords.

Anatomy attempts even to explain the genesis of mental activity. Supported by facts scientifically demonstrated, so-called, it strives to give us the key to every one of the multiple aspects of that proteic modality,—mental life.

Reaching out to the ingenious hypotheses of the admitted systems in the domain of biological science, physical or medical, it is endeavored to explain psychic life on a physical basis exclusively and categorically. These explanations are resorted to constantly, even when the most complex phenomena are concerned. The multiple mental combinations, as a function or a mechanism, are put forth as understandable phenomena. Others, again, histological sections in hand, force their attempts of explanation so far as to localize in a given point of the cortical surface the generating apparatus of this or that element of our mental activity.

The anatomists, either those who, with a table knife, slice the brain and study it microscopically, or the others, who analyze attentively the intimate structure of the nervous system, as far as the modern methods enable us to delve into the splendid microscopic display, pile up for us a whole psychological system which is presented to us under the title of psychological anatomy. We neither wish to contradict nor to combat those doctrines which must certainly contain some true elements in their essence; we only think, with other psychologists, that since the time of the genial conception of Fechner it has been attempted to explain the

influence of the psychic over the physical by means of facts relating to that domain; there is one fact, however, the relation of which to the cerebral topography or physiology has not been explained by any anatomical doctrine; it is this fact which constitutes the very essence of mental life,—it is the mental activity.

To our knowledge, no systematic study has been made on the subject of the nature and the rôle which this activity plays in the mental life and the organism. Attention has been attracted to certain consequences of some orientation of this essentially psychological element; it has been studied as a function of the will-power, and has been garbed in certain psychological togas,—attention, distraction, will power, scruples, but no study has been directed outside of the path outlined for us by some philosophers.

In a series of previous contributions we have attempted to study and to define, basing ourselves on the analysis of suggestive pathological cases, the *ensemble* of psychological attitudes bent on mental analysis. In this present study we wish to complete and elucidate our thoughts by certain synthetic ideas which will prove helpful in the understanding and the knowledge of the rôle played by the mental analysis in our psychological architecture.

In one case, the mental analysis was directed to the structure itself of the mental life; the disturbance in question we called *delirium by mental introspection*. Everything that passed before the subject's vigilant eye, all the phenomena of consciousness that could be registered, even the most minimal and the most intimate, everything was weighed and sifted through a sieve of perservering logic; a logic that was anxious, particularly scrupulous and for this reason led up to the delirious form which we have brought to light.

In the second case, the subject directed his mental analysis only to the physical modifications of his organism and to the knowledge of his somatic constitution which wholly occupied his psychic activity. The mental analysis, or, in other words, the introspection, studied in detail every sensory, organic or other phenomena. Being in a condition that made it impossible for him to direct and to group the results of his numerous and anxious researches of introspective nature, the subject took the path towards a delirium and soon exhibited a well defined *delirium of somatic introspection*.

In a third case, the subject directed his mental analysis toward his surroundings, elucidating his interior mental life by a few vague glimmers of light,—he lived, consequently, in a *delirium of extrospection*, the origin of which resided in this mental analysis

which, in its turn, was directed by the changes and more or less complicated aspects of his social life.

Finally, in a fourth case, the subject's ideas pivoted about the microcosmic architecture of the world, the metaphysics of nature.

We have described that case as one of metaphysical delirium.

The four aspects of mental orientation which we have described, regardless of their pathological forms, represent, in our opinion, *grosso modo*, all possible orientations of mental activity as such; in other words, this covers the field in which mental analysis can exercise its action and in which one can keep track of it. This construction of the pathology of delirium helps understand, from more than one point of view, the psychic act which we are considering here,—the pivot of mental life. It might be said that there is a schematization, so to speak, of the various forms of normal analysis, touching with its activity on the multiple conditions of real life,—normal life, so called.

The personal synthesis being destroyed, so to speak, because of a pathological impression due to a delirious form of introspective, extrospective or other nature, and also because of the absence of a logical polarization of the images and the sensory or other impressions, the majority of the normal and habitual psychological elements become effaced and completely disappear in the face of the pathological disorder, which, in turn, plays a preponderating and well defined rôle.

While analyzing all our observations and trying to compare them to the manifestations in normal life, we came to the conclusions above formulated, namely, that mental analysis can manifest itself only from the four following starting points: 1, the analysis of the "mental analysis itself;" 2, the physical and somatic manifestations of the system; 3, the social life and the surroundings, the race and species; 4, the metaphysical life conceived under its most abstract form.

Without having anatomical proof in hand, we think that mental analysis exists and constitutes the pivot, the most solid, perhaps, of the mental activity in psychic reactions toward which converge and from which sets out every impulse or action which shows even the slightest trace of consciousness; this analysis represents a unique, real, and *a posteriori*, definite centre,—one that has the property of polarization and of utilization of images formed by the senses.

This property puts that centre in a place by itself, its rôle extending to the very biological function of the system.

From the analysis of some score of normal cases belonging to various social categories it is seen that the mental analysis exer-

cises mutual and simultaneous or successive actions on every one of these fields of exploration and of orientation.

The biological life is thus subconsciously led on to its very bloom. The synthesis of gradual development, the outcome of the mental as well as of the physical evolution of the organism, tends towards a stable equilibrium in relation to the four directions above mentioned, and centers about the psychic orientation and the mental analysis.

The healthy subject who lets himself be carried away by this or that of the orientations, no matter how unsound in its logic, never forgets his starting point, the origin of his orientation; this characteristic distinguishes him from the pathological being. He is solidly guided by the pre-established equilibrium and he seldom oversteps the extreme limits of orientation which he has chosen to follow. On the contrary, instead of letting himself be led on blindly by his sensations (as does the delirious subject), of which he understands neither the function nor the structure, he readily resigns himself and bows before the impossible elements as one does before so many lost dreams. He thus places himself, by reason of such a method of living, in a perfectly normal social and cosmic condition, which maintain his perfect psycho-physical organization; he accepts submissively some vague facts suggested by intuition, interesting himself automatically, mostly, in the mediate reaction of life. The surrounding atmosphere leads him gradually to his biological end. This is accepted, although under some protest, at a more or less advanced age. The function of the individual organs, especially the one which constitutes the most perfect human machine, forces on him a *statu quo* which cuts short all his flights and forces him to accustom himself to some more or less vague and misty facts. The greater part of his mental life thus dwindles away and with it go the details of his intellectual end.

Man's life is reduced to the knowledge of some crude facts, the points toward which the orientation of mental analysis is directed. The same is true of the consciousness of the body, the social sphere and the metaphysical preoccupations. Every new knowledge that falls under the mental analysis exercises an influence according to its intensity, the impulsive tendencies or, particularly, the richness of its images and its affinity with the mental analysis of the subject; the latter, however, instead of losing himself in speculation, puts a check in this functional direction. An element of importance in this connection is the co-efficient of contentment that every step of mental analysis suggests to the subject.

Even in the normal subject, the equilibrium is seldom absolute,

the balance bending either towards one or the other side in the sinuous evolution of life. Now a subject shows orientation either in this or that direction of mental life, concentrating himself in it, by accidental reason or by a systematic planning based on the capricious images that crowd the mind. He may, on the other hand, direct his analysis on the somatic configuration of his organism and the qualitative and quantitative co-efficient of his sensory impressions, or else touch on his social surroundings; finally, he may become the plaything of his metaphysical research.

All this is performed, however, in relation to the rest of the configuration of the *I*, being guided particularly by a linked series of facts having a normal relation to the surroundings.

Mental analysis is only a guide towards one or the other orientation; but its initial cause, which supposes the existence of an affinity with the psycho-physical structure of an individual, may be difficult to determine. This analysis is part of a whole series of social or psychological causes which bring about a state of forced activity in our being.

This mental analysis is the laboratory, so to speak, which elaborates the plates of our thoughts, judgments and emotions of every act accompanied by any degree of consciousness.

Our psychological existence, then, is identical with mental analysis. The knowledge of ourselves, our biological existence and our place in nature are but equivalents of mental analysis. The intelligence alone does not suffice for the purpose of investigation of orientation of mental life; analysis represents the highest form of mental life.

One could have, then, an index to a person's intellectual vigor in psychic orientation from the knowledge of his psychological spinning; the latter is of capital importance; we are ignorant not only of its genesis, which would be excusable, but also of its transformation and especially the complex aspects in the normal morbid logic.

We have tried to sketch and to determine the structure and form of mental analysis as well as its mechanism of psycho-physical polarization under its crudest aspects. The normal man, although less conscious of his mental analysis, in the philosophical sense of the word, is in a state of conscious or sub-conscious delirium which is enacted step by step, so to speak, ever retracing his path, reaching back safely to the starting point; the insane subject differs from the former in that he seems to hurl himself, methodically or precipitately, towards a different orientation, specializing himself according to the affinity and the psycho-physiological disturbance engraved by his mental analysis. He

voluntarily shuts himself in within himself; but as his conceptions are without any cohesion, he may thus end either in a condition of ecstasy, similar to the mental inertia, or in a state characterized by an ensemble of diverging judgments, the lack of understanding of which leads him to precipitated states of anguish, anxiety, emotion or tenderness.

He reminds one, to some extent, of the life of investigators, thinkers, creators, literateurs, artists, etc., who, under the apparent aspect of a real life feed and systematize some delirium of introspection. The whole lies in the sense in which the mental analysis has been directed.

We wish to remark that these psychic phenomena, by reason of their intimate relation with our *I*, are very difficult to seize and it is not without some difficulty that one contrives to single out their external attitude. The mental analysis is, if we are allowed to make this comparison, the dragon of the legends who zealously guards the entrance to that saintly temple,—the mental life, the only sanctuary in which we find living of interest, in which we exhibit our desires and fears, in which we give free expansion to our anxiety, or build chimeras, all, while living the common life which requires especially a well systematized automatism directed towards well defined aims. And yet we look askance when the verbal manifestations or external attitudes of the insane are considered with some credulous faith, while that subject is adjudged as such and his mental life is contested.

It may happen, as we have had occasion to notice in our observations, that the mental analysis has a most intense life. The coloring of the expressions is then factitious, so to speak, and the mental life, shut in within itself, under the shield of a pathological mental analysis, may become the source of a delirium.

It happens, finally, that in various cases the mental analysis is broken by some pathological disturbances, the subject assuming the same attitude before the images as that taken by the dreamer facing multiple and incomprehensible scenes; he can take no decisive step, his mental condition resembling a stagnant water, the subject being led either to a state of mental confusion, or to one of mental inertia,—a state which requires careful study in connection with the morbid disturbances of the will and attention.

In concluding, shall we make the ironical statement as below: The mental analysis, a phenomenon synonymous to a large extent with our conscious and logical *I*, while directing our psychological and social conduct, is itself subjected to its proper criterion. In that chaos called thought there are labyrinths in which more than one sideway leads the traveler on the wrong road; no matter how

interesting the first few steps might be, one slips, without even noticing, into a mental orientation which, no matter how directed, is full of anxiety and disturbing emotions. One faces then problems that one does not dare attack and before which it is also difficult to retreat; one ends, then, by staring at unintelligible enigmas of life, which, if interpreted by our ignorance, become still more false in nature; on this road, the first collision encountered may favor the display of disturbances of a pathological nature.

At least, this problem, which slumbers in every mental analysis, requires either the support given by some credulity which facilitates greatly the road and its deviations by reason of some moral support, or, more frequently, some criterion, which is generally less manageable; in either case, there is here a tottering equilibrium which is disquieting from moment to moment.

Shall we remark that, outside of the scientific side of our researches, one should refrain from resorting to mental analysis for fear that it might bring about serious psycho-pathological or physical disturbances, as psychic conditions unquestionably influence the organism?

Are we to lend as little attention as possible to our mental life and swathe our mental life by a principle of moral hygiene, trusting ourselves as little as possible to the seductive psychological raking?

In order to be a happy mortal it seems that one has to content one's self with the crudest possible facts of mental analysis and hope that it suggests, just the same, a strong and healthy "excelsior."

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POLITICAL ASSASSINS; ARE THEY ALL INSANE ?

BY E. C. SPITZKA, M. D., OF NEW YORK.

I have elsewhere undertaken the criticism of an article (1) by the distinguished alienist Regis of Bordeaux, in so far as it exemplifies what I venture to regard as the defective reasoning of the advocates of "Degeneracy;" taking that term in the all-comprehensive sense in which it is employed by their school. In this place I shall endeavor to point out their debatable positions taken in regard to the subject of "Regenticides" or political assassination, exclusively considered.

The following definition of the Regicides is offered by Regis, (p. 145, loc. cit.).

"Degenerates of a mystic temperament, who, misguided by a political or religious delirium, complicated sometimes by hallucinations, think themselves called on to act the double role of judiciary and martyr; who, under the influence of an obsession that is irresistible, kill some great personage, in the name of God, the country, Liberty, or Anarchy."

A "mystic temperament" is not always an insane temperament; nor is the assassin commonly of the former mental complexion. He may even be of a most practically materialistic bent; as were most of the Nihilists; as were Reinsdorf and his companions; and as was the last actor in our own series of tragedies. In some, Luccheni for example, the assassin is too vulgar and of too coarse-fibred an organization to justify a search in him for anything "mystic;" unless it be through mystically befogged investigation; undertaken by one, easily mystified, at that. Likewise does it fall short of the first condition of a definition, of being uniformly true, that assassins contemplate the combined role of murderer and martyr. Scores like Orsini never dreamt of being discovered; dozens like Fieschi, Booth and Hamilton had made elaborate preparations for escape; many like the latter and Maurevert did escape; and such as were captured later were so, because Poltrot-like, they obeyed that strange fascination, perhaps mystic

(1) "A Protest Against the Degeneracy Chimera." Philadelphia Medical Journal, February, 1902. In order to omit repetitions of what I have detailed elsewhere, I refer the reader to that article for strictures on the insufficient evidences statistically considered, brought to bear on the subject by Regis, as well as the singular historical errors into which that writer had fallen—probably through one or other of the hastily compiled compendia of the day.

in one sense, which draws ordinary criminals back to hover around the scenes of their crimes. The definition would not even fit the really insane regicide in all cases; the "order to General Sherman" to "call out the troops" as a thoughtful provision against mob violence (2) is a case in point.

Is Regis well assured that the regenticides captured and executed had always anticipated that fate as certain? Do not the facts show that the chances of escape are sufficiently great to render a regicide's taking the chances merely a question of relative boldness as compared with other homicides? Let us see. There have been committed in Europe in the nineteenth and commencement of the twentieth centuries 152 attacks of this character. The following proved fatal, and to this day the successful assassin remains unknown or escaped.

ANVITI, Minister to Ferdinand of Parma.

BALTSCHIEFF, Roumanian Minister.

GUTSCHOFF, Russian Colonel of Gend'armes.

HAUSER, Caspar, royal waif.

KRAPOTKIN, Russian General in Gubernatorial position.

LESSING, labor agitator and suspected spy.

MESENZOW, like Krapotkin.

MINUTOLI, Cabinet Minister of a Thuringian State.

OBRENOVITCH, Sovereign of Servia.

PRIM, Spanish Premier, Regent *pro tem*.

PARMA, Ferdinand Charles II, Duke of

PRIMO-RIVERAS, Captain-General, Madrid.

QUESADA, Spanish political leader and general.

ROSSI, Count, Papal Premier, 1848.

RUMPF, chief of Frankfurt police.

SELIVERSKOFF, Russian agent at Paris.

STRELNIKOW, like Krapotkin.

STAMBULOFF, Premier of Bulgaria.

To these are to be added one of the Phoenix Park murderers, Tynan; also Hartmann and Chalturin, the contrivers of the Livadia Railroad and the Winterpalace explosion attacks on a Russian Czar. Although identified, it was after they had secured their immunity through flight and lived under assumed names after. There are in addition eleven assassinations of a total of

(2) The certain prospect of which would, I believe, act as a more efficient deterrent than any, even the most cruel, doom of law, on both sane and insane contemplators of regicide. The reference in the text is to the assassin of Garfield.

twenty, all but one having been successful, of Presidents of Spanish-American Republics.*

Of the following attempts made in Europe, those undertaking them escaped identification, the attempts, however, having failed.

Amadeus of Spain.

Bratianu, Minister of Roumania.

Faure, French President (Bomb thrown June 13th, 1897).

George IV of England.

George, Grecian King.

Konstantin, Russian Archduke.

Labori, Dreyfus counsel.

Lüders, Governor of Poland.

Louis XVIII, twice; once as Comte de Provence, 1798, and 1820, as King of France.

Narvaez, Spanish Premier.

Thiotis, Greek Minister, 1901.

Wielopolski, Military Governor of Warsaw.

A total of 35 assaults occurred by unknown assassins, of which 21 proved fatal, 4 resulted in wounding, and 10 failed altogether. If the American cases be included, the total rises to 47, with 34 fatalities out of 174 cases. In addition to those who had escaped arrest and enjoyed immunity by remaining anonymous, others have remained immune, even after arrest and trial; Leonie Leon, who slew Gambetta, the partly successful assassin of General Lagarde and Vera Sassulitch, the all but murderess of General Trepow, the chief of the "Third Division" and "Terror of the

*On excluding cases where a conspiracy was not matured, in other words, the attempt was not actually realized, as well as those where the assassination took place under cover of a revolt, the percentage of fatally ending attempts among Presidents of Spanish-American Republics is 78.9. This, as well as the absolutely high number of these tragedies, will not surprise those who read in the history of more than one state, "This was the first President to complete his term of office, and leave it to his successor without the accompaniment of a revolution, massacre or flight." The following list I believe to be incomplete. Of the cases in the text one or two may prove to be incorrectly enumerated, the assassin possibly having been identified unbeknown to me.

Arboleda	Comonfort	*Moraes
Balta	Dessalines	Morales
Barrundia	*Diaz	Pizarro (Vice-Roy)
Barrios Reina	Flores	Salnave
Blanco	Francia	**Santos
*Bolivar	Gill	Uruquiza
Borda	Guardiola	
*Campos-Salles	**Linares	

*Not injured.

**Wounded and survived; the remaining sixteen perished.

Nihilists," being examples. To these might be added at least one, Dr. Bernard, of the Orsini assassins; the Portuguese Mascarenhas was merely banished; Ragosa was liberated by the verdict of an Italian jury, while his accomplice was hanged, pursuant to that of an Austrian one.

Thus a superficial search reveals no less than 53 instances in which mostly one, in several presumably more than one assassin escaped out of a total of 174 cases; or excluding the assassins of Spanish-American Presidents as disproportionately fortunate, there remain 41 such cases, of a total of 152, a ratio of 26.9-10 per cent.

Before pronouncing the regicide as so much more a degenerate fool than is the ordinary murderer, would it not be well to compare with these figures such representing the ratio of escapes and immunity of the latter? As I have had occasion to say elsewhere, in taking exception to reasoning which made degeneracy and lunacy prevalent among regicides, resting that reasoning on the unprofitableness of their crime: "Every criminal is a fool, but that does not make every or any criminal a lunatic any more than that his insanity makes every lunatic a criminal." In a full one-quarter of the cases one or other assassin remained exempt from retributive death whether by law, by lynchers or by his own hands.

We are told categorically: "As for the regicides themselves, besides the numerous nervous and mental disorders to which they are subject, they are also degenerates." The discrimination here implied as between degeneracy and mental and nervous disorders, is not clear. Lombroso for example throws them all into a common chaos. Aside therefrom, the statement is not borne out by the cases cited. The hallucinations of Clement and Ravillac I have shown, elsewhere, to be of a class of phenomena, too common in their day to predicate insanity on them alone; and as regards the cited instance of Poltrot's praying and feeling strengthened thereby (p. 142, loc. cit.), I have, in referring to it in the same place, been unable to refrain from characterizing the bringing it forward as a sign of insanity as puerile.

In France alone have been made 114 assaults on 93 persons, 57 of whom succumbed. Of these again 43 attempts were made on 26 persons with 11 fatalities in the nineteenth century. Excluding the "false regicides," as Regis terms those assaults contemplating rather notoriety than homicide, the attempts number 39 on 23 persons with 11 deaths, *numbering 43 known assassins, participat-

*This excludes such cases as those of Marshal Brune, General Ramel,

ing in the former. Only 6 attempts with 6 participators of the 39 attempts with 43 participators (in the wider sense 10 of 47) are represented in his paper, certainly in no sense an adequate proportion to base comprehensive definitions and conclusions on. True that one case well studied is worth ever so many figure-heads posing in statistical array; but when sources, motives, methods and consequences of acts are so far from being monotonously uniform as they are with regicide, many cases require analysis; and the limited extent of the crime renders this no insurmountable task. How can a uniform definition be predicted for the act of Tschech and that of Louvel; or, take the unquestionably insane, would any pen-picture of Schildknecht or Sefeloge suit Verger, or one of Prendergast be applicable to Oxford? Is the distance between Bellingham and Guiteau not as great as that between persecutorial delusional insanity and original megalomania can be?

Let us attempt to apply Regis's definition to a concrete instance; I shall take Bellingham's.

This test case is not a selected one, but taken hap-hazard as the first in a list of diplomat victims of assassins. As great and greater discrepancies are found in substituting for Bellingham, McNaughton who, intending to shoot Peel, killed a subaltern; Dominique Miller, who made the similar mistake regarding the Mexican Consul fatal to Santi; McNamara, who assaulted Blaine; Sangerly, whose delusion had well nigh proven fatal to the French Ambassador Roustan; in short, this particular category among nine insane assailants, contains no less than five who are not alone undescribed in that definition but actually conflict with its terms.

DEFINITION OF INSANE
REGICIDES PROPOSED
BY REGIS.

ACTUAL FACTS IN RE-
LATION THERETO IN
CASE OF BELLING-
HAM.

"Degenerates"

Bellingham's father was notoriously insane.

"of a mystic temperament"

*Nothing especially pointing in this direction recorded.

"who, misguided by a political or religious delirium"

*The delusional concepts of Bellingham were of a mercantile and financial character intrinsically.

"think themselves called on

Bellingham acted as judiciary

Victor Noir and Marshal Mortier, but includes the bomb throwers á la Vaillant and Ravachol. Three others accompanied by fatal results are not so figured as the persons killed were not directly aimed at, though aggregating two score, namely Limoleon, Fieschi's and Orsini's.

to act the double role of judiciary”

“and martyr;”

“who, under the influence of an obsession that is irresistible,”

“kill some great personage”

“in the name of God, the Country, Liberty or Anarchy.”

in his claim, deciding it sound, after chosen umpires had decided against him.

*Bellingham, so far from contemplating martyrdom, wrote his wife on the day of his deed that he expected to be released and visit her two days later.

I question the applicability of the “irresistible” and obsession in an alienist sense—but as this is debatable will merely point out that Bellingham shot Perceval because he thought himself authorized by the Home Office; “a morbid impulse” *stricté sic dicta* was not discoverable.

Bellingham killed the Prime Minister, Perceval, in 1812.

*It was in the name of none of these, but of “Bellingham first, last and all the time.” Possibly it could be interpreted as committed in the interest of “justice” outraged in his person, as he thought.

Judging by the fact that the occurrence of suicide or insanity in a family is stated to indicate a positive taint in one paragraph, (loc. cit. p. 140), and the nervous and mental disorders to which regicides are subject are mentioned as common to the class in the next one; Regis must regard ancestral suicides and insanity as a Kismet dooming the offspring to the degeneracy complicated by a dementia-terminating psychosis, which he defines as I have quoted it. That such statements, rather by implication than dogmatic assertion, though even this may occasionally be heard, have been and are a source of immeasurable harm; harm, of which the authors concerned have no conception, I am firmly

*Contradiction marked by asterisk.

convinced. The impression created in the minds of the relatives of insane persons thereby is highly deleterious.

The number of people of refinement, and not infrequently of talent and performance, who consult nerve specialists oppressed by the incubus of the half knowledge obtained by the popularization of the chimera, painted in glaring colors, and named "degeneracy," must, judging by my personal experience, be a large one. While it is preached by most alienists, that subjective worry of this character, can not by itself provoke mental disease, I am not so confident; for I recognize juggling with the mind, experimental or through circumstances, as leading it near or into a *terra incognita* the terminus whose paths one may not be always able to anticipate. There are authentic cases on record, vouched for by authorities like Westphal, of genuine psychoses resulting (in non-predisposed persons) from dreams. I am unable to account for still others unless I accept the influence of sensational impressions in the waking state as adequate causes. Then, too, it does not render their injurious influence any the less that those who discredit the causative influence of apprehension and brooding, add the qualifying clause "except in predisposed persons." According to the canons of heredity that proportion of the human family is by no means an inconsiderable one, and hence it is one whose interests surely weigh against those of a regicide whose insanity is most problematical in many cases, if we grant that those interests are furthered by exaggerating the overwhelmingly malign powers of an hereditary influence. But aside from this practical consideration, there is a question of scientific logic involved. To infer and declare insanity from the fact that heredity exists, imperfectly sustained, or altogether unsustained by clinical evidence, as is done by more than one contributor to this discussion, is inverted and fallacious reasoning. Physicians from time immemorial noted the frequency of heredity; they concluded that it was a most important, I, myself, go so far as to say the most important predisposing factor. But physicians do not examine family trees first and, tracing insanity through this or that or several branches, predict that this or that twig will turn out the bearer of insanity; nor do they from the presence of insanity in one line, telepathically discover its existence in collateral lines whose members are miles away!

Suppose I have a large number of cases of tetanus in my practice, and it happens that a large proportion of those which have occurred in my special district could be traced to the having trodden on rusty nails; do I frighten every person who consults me about an injury from the latter mishap into functional terror-

spasm, donning the mask of the tragical prophet-medical, and predicting tetanus as prospective?

Unless the allegation of insanity can be sustained by the life-history and mental state of its alleged subject, somatic stigmata and family histories, while warranting, nay, demanding registration, do not prove insanity. If the mental symptoms justify its allegation, then indeed the latter appear as collateral evidence of high value, for they reduce the possibility of simulation to the very narrowest margin. Therefore, from those asserting the insanity of historical characters, it can be rightfully demanded that they present at least some convincing symptom or group of symptoms, or action intrinsically suggestive of insanity. Unless they do this, they may register the occurrence of a dozen suicides or of a half-dozen insane relatives in the subject's family. It is interesting and strongly suggestive, but it is not proof of insanity.

In recent medico-legal cases we encounter the "*on dit*" as sole source of hereditary history over frequently. While its assertion was not likely to have been of the same uncertain origin in former days when, heredity not being appreciated, the motive for manufacturing or coloring a family record could not have been as suggestible as it has today become, one may reasonably ask writers for more definite statements than such which smack rather of village gossip than historical annals or juridic register.

In this direction the shortcoming of some histories given in the monograph of Regis, and in a large number in that by Talbot, are such as to deprive a great part of their material of any convincing value. Even of those cases regarding which the consensus of opinion inclines towards assuming the insanity of an assassin (Ravaillac, Damiens) the question arises as to whether in the ordinary course of events the subjects would have been likely to drift to the hospital, or whether their counterparts today would be regarded as proper subjects for asylum treatment or legal curatorship. That their mental state has not been measured by the standard of their contemporaries and in relation to their environment is a great stumbling block to accepting some of the conclusions based on elaborate and painstaking researches. As elsewhere shown, the strongest reasons for pronouncing Ravaillac and Clement insane would justify declaring Catherine de Medici to have belonged to the same category. And if implied criteria deducable from Regis were strictly applied, all France, nay, all Europe of the last half of the sixteenth and first half of the seventeenth centuries must have been a cosmopolitan madhouse, minus walls and caretaker.

It sounds a ridiculous truism, asking those who would establish

the departure of a mind from a given standard, to establish that standard as a preliminary. But more ridiculous than the assertion of any truism is the procedure of writers who render its assertion necessary. Such have failed to familiarize themselves with the environment of regicides like Poltrot and Gerard, yet declared them insane although these persons complied with the popular standard as revealed to the more careful enquirers.

How far in ethics was the solitary murderer from the standard of a day that saw the population of a great metropolis, old and young, male and female, high and low, engage in the wholesale assassination of their treacherously invited and disarmed guests? How much can such assassin's moral principles have been perverted from the standard of a day when teachers and manuals inculcated the conditional justifiability, if not the duty of regicide? Did the humbler classes see any other—to them comprehensible—statecraft, than assassinations, ambushments, tumults, Kings and Queens conspiring against great lords, and great lords returning the royal compliment? Neither on the score of legal nor of abstract morality therefore can a regicide be pronounced a gross departure from the normal standard of the day of St. Bartholomew fame. I will suppose the advocates of the insanity of the assassins named admitting their inability to maintain this particular position, and to fall back on the morbid "rage" displayed by Clement "when the 'Huguenots' were mentioned." The party whose members conducted themselves as described in the following was the dominant one in France, and hence the majority; in what respect did Clement's rage differ from the "frenzy" of this majority?

"The common people in France hold that there are no people more wicked and criminal than heretics (Huguenots) generally as long as they are a prey to the blazing faggots the people around them are excited to frenzy and curse them in the midst of their torments, says a contemporary historian."*

If this extract indicates Clement to have been "of the people" in this "rage" matter, the great men of the day had not risen to a higher level. We may therefore assert it to have been in the line of the general conduct of all classes. To give an individual example, a chronicle cited by Guizot elsewhere, states that Guise, hearing that there were a number of Huguenots in a church at a town in Champagne, "began to mutter and to put himself in a *white heat*, gnawing his beard as he was wont to do when he was

*Sleidan, quoted by Guizot.

enraged or had a mind to take a vengeance." Is this "rage" better or worse than that of Clement?

The frame of mind in which a regicidal act is conceived, may be best studied from declarations made at the time of its maturation and always before its accomplishment.

Sometimes a letter written prior to the attempted crime permits a glimpse of the innermost psyche of a regicide. The following manifests a delicacy of feeling and solicitude for others, scarcely compatible with the prevailing conceptions of real lunacy. For the Ego of the insane, whether in subjective self-abasement or expansive self-aggrandizement, is too exclusively dominant to permit other egos beside itself—even the simulating such altruism by lunatics seems to me a difficult conception.

Sheppard, having conceived the idea that it would be a praiseworthy action to kill the King of England in 1718, wrote this letter, which he intended for a nonjuring minister of the name of Leake, but mistaking the spelling, he directed it "To the Rev. Mr. Heath." This letter was in the following terms:

"Sir—From the many discontents visible throughout this kingdom, I infer that if the prince now reigning could be by death removed, our king being here, he might be settled on his throne without much loss of blood. For the more ready effecting of this, I propose that, if any gentleman will pay for my passage to Italy, and if our friends will entrust one so young with letters of invitation to his majesty, I will, on his arrival, smite the usurper in his palace. In this confusion, if sufficient forces may be raised, his majesty* may appear; if not, he may retreat or conceal himself till a fitter opportunity. Neither is it presumptuous to hope that this may succeed, if we consider how easy it is to cut the thread of human life; how great confusion the death of a prince occasions in the most peaceful nation; and how mutinous the people are, how desirous of a change. But we will suppose the worst * * * * that I am seized, and by torture examined. Now, that this may endanger none but myself, it will be necessary that the gentlemen who defray my charges to Italy leave England before my departure; that I be ignorant of his majesty's abode; that I lodge with some whig; that you abscond; and that this be communicated to none. But, be the event as it will, I can expect nothing less than a most cruel death; which, that I may the better support, it will be requisite that, from my arrival till the attempt, I every day receive the Holy Sacrament from one who shall be ignorant of the design.

"JAMES SHEPPARD."

The letter exhibits a fairly correct view of the political situation, one which sound writers regarded to have been most critical at that very period. Above all, it shows behind the not unnatural posing as self-devoting martyr, a sufficiently sanguine survey of the chances of escape. Sheppard contemplates the following such. First: there is "this confusion" in the midst of which he contemplates the appearance of the new sovereign for whom his dagger

shall have that moment cleared the throne; his safety and more than mere immunity were then assured. Second: the people are "mutinous" so that failure or success, indifferently, leave him the chance of a rescue. The chance of capture and punishment he regards as the less likely one of three for ament it he says: "But we will suppose the worst"——

Advocates of the opposing view may unearth the fact that Sheppard was betrayed by a stupid error committed in directing this very letter. Blunders are committed by every criminal, however; it is notorious that counterfeitters of marvellous skill almost invariably make a false copy of some trivial feature, and so clumsily and stupidly as to appear startling to a child. While therefore entirely consonant with the general experience ament criminal stupidity, it is not altogether unparalleled in legitimate undertakings by good citizens, even of the highest intellect. I need not refer to State asylums for the insane, provided with "all modern improvements," built on high hills, without a thought having been given to the water supply. There have been theories evolved by natural philosophers equal in their ingenuity, plausibility and grandeur of conception to any human intellectual achievement which are mere derelicts today through one apparently minute flaw, but involving absurdity so patent that the school boy might remark, "I could have done better myself."

I might be pertinently reminded here that, proceeding far enough on this line of exclusion, I may find myself accounting in the same way, for every single deed and every single incoherence and fallacy of the insane, to be conceivable as an error of the sane mind through misconception or misjudgment; and I would instantly admit that it were difficult to find any isolated deed, opinion or expression, characteristic of the one, incompatible with the other. But there is a world of difference revolving on that single word "isolated;" for I would admit Sheppard insane if it were shown that his error in addressing the letter had been one of a *chain* of errors arising in this wise: Living in days when conspiracy was rife and rebellion had just been suppressed, the Guelph tenure still a precarious one, it happens that Sheppard experienced a strange subjective feeling, which is interpreted by him as of supernatural origin; in some forbidden meeting of his co-religionists he hears a reference to the arm that shall be blessed for striking down a second Caligula, Cæsar, Holofernes or Henry of Navarre. Regarding this as a special hint intended for himself, he perceives in a few street brawls a "mutinous people," regards others who appear to look at him significantly as sworn sympathizers, is particularly impressed with the fact that one of them

enters the house of a non-juring clergyman, learns his name, right or wrong, and, jumping at conclusions as to his identity, is convinced that he has discovered the Providence-designated channel for communicating with the Pretender. Such a person does not need any additional idea, such as selecting a seat on high, next the Redeemer, to constitute him insane, using an old apothegm "to his fingers' ends." But almost any one of the above singly, barring the initial sensation, is supposable in a sane person and is certainly insufficient to prove insanity's existence.

Barrett is another witness against Regis as regards self-immolating tendencies of political assassins. He had arranged an alibi in advance and of such a character that I shall let the account of Fitzgerald speak concerning the effect it had on most who heard it.

"The prisoner was allowed to deliver an extraordinary, impassioned address, of a native dignity and pathos, that was scarcely in keeping with the crime for which he had been convicted. In fierce and bitter terms he denounced the witnesses and approvers who had appeared against him. 'Never,' he said, 'did he feel the supreme degradation if his country till that day.' He protested, but in guarded terms, his innocence. But he was going away to a land where justice would be done him, and those who had inflicted this wrong on him would have punishment meted out to them. A deep impression was made on all who listened, and some had uneasy suspicions that such a calm and dignified demeanor could only be compatible with innocence."

"There was much discussion as to the conviction, and many were impressed by the ingenious alibi. So earnestly pressed were these objections, that a respite of a week was granted; while commissioners were despatched to Glasgow to inquire into the alibi. This took up more time than was anticipated, and the respite was extended to another week. It was found, however, that the alibi did not gain by the examination."

Ignorant and impoverished men are easily dazzled by the display of money on the part of agitators and their agents, and particularly so when the exhibitor is lavish thereof to them. This factor is said to have been the one employed in conjunction with the mystery of secrecy and terrorism of mysterious threats to secure and bind the services of men who could be depended on to place the explosives and combustibles of the conspirators* conducting the Tower, Parliament and London Bridge explosions at those places.

If in these cases are illustrated the operation of fellowship and bribe-inspired courage or desperation driven by systematized terrorism, there are others in which appeals to a gentler passion as

* Gallagher, whom I saw on his return from England, a pardoned insane man, suffered from a characteristic hallucinatory psychosis, the recognized sequel of solitary confinement.

disharmonious with a bloody purpose as may be, succeeded. Barriere, a poor boatman of the Loire, infatuated with a girl "employed in the household of Madame de Valois," is "won over by her to the views" of that noble house. Fanaticized by his love for the girl and the sermons to which she entices him, he sharpens the steel with which he will attempt what Chastel, Mignon and Ferrand missed and Ravallac achieved; too loud in the fulness of an enthusiastic and fiery heart, and overheard, he is apprehended, convicted and put to death with all the horrible circumstances of a regicide's execution.

Among sane regenticides the conspiring variety includes a number actuated by a motive which, on first sight, appears so unreasonable to the popular view as to suggest unsoundness in itself: the fascination which the accounts of trials and executions of other regenticides exert on some youthful minds. I need not devote any space here to combatting its supposed pathological significance. We have the confessions of conspirators of this and related classes showing such impressions and their strangely fascinating influences to be far from uncommon enough to be regarded as pathological exceptions. One such instance is that of the organizer of the Fuller plot; he states his having, when young, fallen in with a pamphlet containing an account of the life and horrible death of another conspirator; that his imagination was set on fire, and ever after was haunted by a presentiment of a like fate.

That a large proportion of regenticides suspected, with some reason, of having been the instruments of others; or of having had accessories behind the scenes; have resolutely contradicted these charges, and resisted both extremes of suasion—the torture as well as contingent executive clemency—is too readily accepted as a proof of their act having been that of a single mind. The reasoning which to the accused, condones the falsehood on his dying lips, is one familiar to students of history; it has been termed Jesuitical, but it was the reasoning of Protestant fanatics as well as of their opponents. Party fanaticism which nerved the arm, equally tied the tongue and sealed the lips; the same ingenuity which contrived the plot, contrived the fiction calculated, like the dying serpent's last effort, to injure the foe. From the day when Theodatus the Syracusan, under torture, deceived Hiero by a spurious confession, which caused that tyrant to send Thraso, one of his most loyal intimates, to the scaffold; to the time of Fenwick, whose confession to William III implicated exclusively the latter's friends and chief supporters—have authentic demonstrations of this been recorded? The bitterness of party spirit, the fierce

hatred of opponents, increased by confinement, prosecution and the imminent destruction of life, serve to fortify a stubborn humor or vainglorious pride in conformity with the adopted fanatical faith and the loyalty shown his party sufficiently to justify the relying of the instigators on their security against betrayal by their agent or dupe. So well was the association of these, from a conspirator's point of view, desirable qualities with a certain class of minds understood, centuries ago, that Longham, a Jacobite agent, confessed his selecting the regicides employed against William III., among flighty and half-witted men, such being more susceptible of fanatization and likely to prove blindly loyal than others, and more easily consenting to undertake what a shrewd calculator could not be induced to undertake for the most enormous bribe.* Longham might have added that the bribes most tempting to such, are the real or affected admiration of associates and particularly the eulogization by those prompting chiefs, who happen to be the eidolon of the dupes' hero-worship. Substitute for the Jacobite cause, that of Anarchy; for Barbesieux or Louvois, Louise Michel or other self-supposed "Jeanne d'Arc" devoted to it; for William of Orange, the collective heads of republics, empires, kingdoms and great industries; then subject this same dupe to their influential environment, and you have a Bresci, a Czolgosz or a Berkman. Nor need you all this apparatus for certain natures instinctively brutal; those glorying in malice, mischief and the misery of others, require but little preparation to become Hoedels, Lucchinis or Reinsdorfs.

This brings me to the subject of the role played by the various factors susceptible of analysis in the national and other tragedies here considered. The figures accumulated in the rubric of regicide, construing that term in its widest sense, making no discrimination between high and low, military or civilian, royal noble, burgher or serf, taken from all readily accessible records of all times and lands—and which is yet very far from a complete one—is 720, of whom 78 were of the female sex. On excluding those whose position rendered their punishability out of the question, and consequently gave them a status contrasting with the typical assassin as well as those who assassinated at and in such opportune moment and circumstances as to make them immune, the number shrinks to 221 assassination plots, the actors in which are represented in the tables by 277 names.

(To be concluded.)

*Macaulay's History of England, Chapter XIX,—also note to same chapter.

THE GENESIS OF EPILEPSY CLINICALLY CONSIDERED. THE PATHOLOGY, PROPHYLAXIS AND TREATMENT OF EPILEPSY.

ILLUSTRATED BY CASES AND STATISTICAL TABLES.

BY LOUISE G. ROBINOVITCH, B. ÈS L. (PARIS), M. D.

Foreign Associate Member Medico-psychological Society, Paris; Member New York Academy of Medicine.

(Continued.)

We have, up to now, followed closely the stepping stone to epilepsy in the progenitor. We have seen that the parent afflicted with vertigo or epileptiform attacks of an alcoholic nature is very apt to give birth to an epileptic offspring. More, we have brought to light a great biological fact which is a valuable clue to our study: the same parent may engender perfectly healthy children, entirely free from convulsions—before he indulges in alcoholic drink; whereas after the establishment of the alcoholic habit the contrary takes place—the child born under these new conditions is generally a pathological being, very apt to have epilepsy; some of the alternative fates of such children are death during infancy, either from inflamed meninges or convulsive ailments.

This tends to show not only that the primary root of epilepsy lies, in a large number of cases, in a pathological cerebral condition of the progenitor's brains, a condition induced by the abuse of alcohol, but also that alcoholic vertigo and epileptiform attacks in the parent are the stepping stones to true epilepsy in the offspring.

The epileptiform attacks differ in their nature from the true epileptic convulsions.

"Alcohol, in the long run, can bring about convulsions; but they do not appear in the form of frank attacks of epilepsy. Their mechanism is altogether different. They are not like toxic epileptic attacks developed under the influence of a special poison; they are convulsive epileptiform attacks analogous to those seen in general paralytics, the senile demented, the patients afflicted with cerebral tumors, attacks depending on profound lesions already produced in the nervous centres by the prolonged use of spirituous beverages." (Magnan).

Although the above picture of chronic alcoholism is a grave one as to its nature, it is yet possible to arrest the progress of the convulsions due to alcoholism at that stage. If taken in proper time, one subject to these convulsions may become free from them

and return to normal health by abstaining from alcohol. The clinical fact is demonstrated in the case cited below.

Case IV.—*Chronic alcoholism.—Acute alcoholic delirium with painful hallucinations of sight and hearing.—Epileptiform attacks directly dependent on excessive ingestion of alcohol.—Two children born before the alcoholic habit was acquired are healthy. Freedom from epileptiform attacks during periods of abstinence from alcoholic drinks.*

M. E., 29 years old, plumber, was admitted to the Admission Bureau, Ste. Anne Asylum, September 10, 1898. There is no history of his antecedents. He married when 25 years old; he did not have the alcoholic habit then. Two children were born within the first five years of married life and both are healthy. The patient began to indulge in alcoholic excesses, however, and soon left his wife. He consumed daily from 2 to 3 "absinthes" and a litre of wine. The acute effects of alcoholism were not slow in showing themselves. On his first admission to the Admission Bureau, December 14, 1892, he suffered from acute delirium: his hands trembled and he had painful hallucinations: a snake, which was visibly growing into larger and larger proportions, was going to encircle him. He saw a bomb of dynamite upon the window sill, and a multitude of rats danced in circles around the bomb, which could explode at any moment, etc. These acute symptoms disappeared, after a three months' period of total abstinence and water regime. On his discharge from the asylum, however, he again indulged in alcoholic excesses and entered the Ste. Anne Asylum June 13, 1893. There was a repetition of the clinical picture of acute alcoholic delirium: trembling of the hands, painful hallucinations of sight and hearing; his body was going to be crushed into mortar, etc. A new period of water regime and abstinence soon brought him through his attack. On October 3, 1893, he was arrested on the street where he was incoherently shouting: "He will die in the ocean of his little king. . . . Long live the Empress of Darkness. . . ." When brought to the Ste. Anne Asylum, his hands trembled, he imagined he was going to be guillotined, crucified, swallowed by wild beasts, jumped upon by elephants; wolves were precipitating themselves upon him, phantoms, enormous persons—giants, all tried to harm him. Rats were running after him. His friends only derided him and even threatened him with violence when he appealed to them.

Up to this time the patient only suffered, on the whole, from acute alcoholic disturbances; the more permanent effects of the poison on the brain tissue have been insidious in onset. For, although no other symptoms were manifested than those of acute

alcoholism, a radical change had already taken place. In 1895, at the age of 36, the patient suddenly fell without any warning, in an unconscious condition and had a convulsive attack. He was picked up and brought to the Admission Bureau. On awaking, he was astonished to find himself there and had no recollection of what had happened to him nor what had caused him to be brought to the ward. All that had transpired from the moment he had fallen to the time of his regaining consciousness, was a perfect blank to him. He remained in the asylum six months, under a water regime and a system of total abstinence, and *no convulsions* took place. On being discharged, he resumed indulgence in alcoholic excesses. Five months of this life helped again bring about the necessary condition of the brain to favor the occurrence of convulsions. And, indeed, at the end of that period he suddenly fell in an epileptiform attack. Without any warning, he lost consciousness and fell to the ground in clonic convulsions; he was picked up in this condition and brought to the Admission Bureau. When he regained consciousness he was again astonished to find himself in the ward and had no recollection of what had happened to him nor how he had come to the asylum. He made a long stay in the wards, under a water regime and total abstinence. His health improved while under this care; he had no convulsive attacks during that period of time. The injured brain tissue seemed to have regenerated. The patient was given his liberty and he began to drink again. After two months of alcoholic indulgence he fell in an epileptiform attack. A shorter period of alcoholic indulgence now sufficed to cause an attack to take place.

The patient was again brought to the Admission Bureau in an unconscious condition. On regaining consciousness all was a revelation to him: the fall, the convulsive attack and his trip to the asylum. The water regime and total abstinence were again carried out to the advantage of his health, and the brain resumed its normal condition; there were no convulsive manifestations during his present stay in the asylum.

Seeing the remarkable demonstration of the direct relation, in this case, between the alcoholic excesses and the occurrence of the epileptiform attacks, the physician cautioned the patient most earnestly against further indulgence in drink. The patient, after making a good recovery in the asylum, obtained his discharge and abstained from drink for quite a period of time, while at large. He remained free from epileptiform attacks during that period. His will power soon failed him, however, and the habit again reasserted itself. Within a few weeks after alcoholic indulgence, he had an attack of painful delirium; multitudes of snakes were intent on

stinging and devouring him; horses, lions, tigers and bears were jumping at him; he shut his eyes not to see them, but to no purpose. The painful visions were far worse at night or when the room was dark. Frightened into terror, he ran out into the street naked and fell to the ground in an epileptiform attack. The convulsions once over, he gathered himself up and began promenading about the reservoir of the Place Daumesnil, where he was arrested and then brought to the Admission Bureau, January 28, 1898. His last admission to the asylum was, under the usual circumstances, in an unconscious condition, September 10, 1898.

Case V.—*Chronic alcoholism.—Delirium of persecution.—Epileptiform attacks directly traceable to the influence of alcohol.—Absence of convulsions throughout the period of one year's abstinence.*

G. L., 57 years old, entered the Admission Bureau, Ste. Anne Asylum, June 16, 1898. His father died of gastritis; he was not an alcoholic, but had a quick temper. The mother died at the age of 59, of a cancerous growth in the abdomen; she was addicted to alcoholic excesses.

The patient had a normal childhood, was intelligent at school and at the age of 14 entered, as apprentice, the shop of a wood gilder, remaining in that trade until he was 20 years old. At that time he commenced to drink. He now changed his occupation, becoming a launderer. At the age of 24 he married, but continued to indulge in alcoholic excesses. He suffered from nightmares, trembling of the hands, vomiting in the morning, and occasional spells of alcoholic delirium. Still, this was no warning to him and he continued in the alcoholic excesses. When 35 years old, he had the first marked alcoholic delirium: he saw in his bed innumerable persons who wished to kill him; great military battles were being carried on in the bed also; he felt and saw the blood shed; there were ferocious beasts trying to swallow him; serpents encircled him; apes and rabbits jumped upon him; fishes swam about him, and rats gnawed his flesh. The delirium once over, the patient resumed the abuse of alcohol and he soon began to suffer from marked cramps in the legs and arms. In 1887, he had the first marked spells of dizziness and vertigo. These symptoms were only forerunners of a graver pathological condition which was to succeed. On March 22, 1888, the patient fell suddenly, without any warning, in a convulsive attack. The second one took place a year later, in 1889. He was 37 years old now. His physician warned him against the abuse of alcohol and succeeded in frightening him. He therefore stopped drinking, abstaining from alcohol throughout the years 1889-1890. He had *no epileptiform at-*

tacks during that period of abstinence. Finding himself healthy under this regime, he weakened in the resolution to remain temperate and resumed indulgence in drink; this he did with much zeal, as his appetite was the more whetted from the period of abstinence. An epileptiform attack soon surprised the patient, but he kept on drinking; another attack occurred in the same year, (1891). He did not now try to resist drink, abandoning himself to the alcoholic habit. He had three attacks in 1892 and many others every year following. In June, 1898, he was taken to the Hospital Charité, to be treated for gastric disturbances. On that night he had a severe epileptiform attack and was transferred the next day to the Admission Bureau. He was actively delirious and heard a voice say: "Gustave, come with me, I love you," etc. It was always a strange woman's voice that he heard address and defend him. His wife's voice, on the contrary, bemoaned his fate.

I think that I have demonstrated fully that epileptiform convulsions are due, in a vast number of cases, to the abuse of alcoholic drinks. This fact is well known to the clinician. It has also been shown that the alcoholic subject can rid himself of epileptiform convulsions by abstaining from drinks, and that epilepsy in the offspring is traceable directly to parental alcoholism in a vast number of cases. The exact numerical extent of this will be given later on.

The value of these truths is of much clinical importance. For, indeed, if epileptiform convulsions of alcoholic origin in the parent are genesic elements of true epilepsy in the offspring, then have we reached the knowledge of the primary origin of epilepsy.

The primary origin of epilepsy, therefore, as brought out in this paper, is alcoholism. In the parent it causes epileptiform attacks; and the descendant of such parents is apt to be epileptic in a vast number of cases. It is of interest to note in this connection, and the fact has already been referred to, that alcoholic parents who have given birth to epileptic, idiot or imbecile children, with or without other pathological stigma, can give birth to normal children if the parents abstain from alcoholic drink during a long period of time before conception takes place.

The reverse side of this biological phenomenon is also true, as every physician knows: perfectly normal parents, with no pathological family record, have been known to give birth to epileptic and other degenerate offspring, if one or both parents have indulged in drink at the period synchronous with the conception of the child.

(To be continued.)

THE TRANSFORMATION OF CRIME AND THE MODERN CIVILIZATION.

RESEARCH IN CRIMINAL STATISTICS.

Inaugural Address at the Law School, University of Lausanne.

BY ALFREDO NICEFORO.

A philosopher has said that the history of civilization is the history of human suffering. The author of this aphorism had, no doubt, a deeper and truer conception of civilization than is the one generally adopted. The majority thinks that, by virtue of civilization, evil and crime will slowly disintegrate, making room for the birth of goodness, justice and felicity.

Civilization has always been judged with extreme optimism. The masses think of civilization as of something analogous to the sunrise. According to that notion, evil makes room for goodness, just as the night shades disappear before the light of the rising sun.

This conception of progress and of civilization is, if I am not mistaken, a profound error of sociological optics.

Civilization does not *suppress* evil; it *transforms* it. Not only this, but every special form of civilization brings with it its special forms of crime. Civilization has its infections and its leprosy,—in the physical as well as in the moral domain; it has its crises of tears and paroxysms of pain, just as it has explosions of boilers and wreckages of trains.

Modern civilization has dismissed the extent of mortality, reducing it from thirty-one per cent. at the beginning of the last century, and bringing it down to twenty-seven per cent., which represents the mortality figure of to-day. It has elevated the level of intellectual culture and we owe to it the discovery of the telegraph and steam; but at the same time it has brought us an increase of certain forms of crime and suffering.

Insanity is on the increase and the statistics show us an alarming progress of the disease. Suicide is progressively on the increase. Both suicide and insanity are venomous plants nurtured by the flourishing of contemporaneous civilization.

It is civilization, then, that is causing suicide,—the wreckage of the will power, and insanity,—wreckage of the intelligence. Consequently, evil and suffering do not evaporate under the burning flame of human progress; they only become transformed. And crime, that first-born of evil, is subject to the following law: It is immortal and ever takes on new forms.

Among the transformations of crime brought about by civilization are the following: Crime, which was enacted in the barbarous society by *violence* is accomplished in modern society by means of *fraud*.

Barbarous criminality is simply transformed into modern criminality.

The works of Björson (LE JOURNALISTE), Balzac (MAISON NUCINGEN), and Annunzio (L'INNOCENTE) show us the fraudulent character of the crime of to-day; those who stole and killed with the

sword yesterday, attain the same aim to-day according to the tortuous ways of the hour, without staining the hand with blood. Crime by steel has made way for crime in white gloves.

In order to bring my statement out more clearly, I need only refer you to the statistics of criminality in Italy, where above all other countries, there is a large field for the study of crime.

In 1880, homicide, the most exact index of crime of violence, reached as high as 16 per 100,000 inhabitants. In 1897, the figure fell to 12. That is to say, that during the last twenty years, homicide has diminished in the proportion of 100:75. We also find a diminution in the infliction of corporal wounds, which has diminished from 296 to 271 to the same number of inhabitants; extortions are lowered from 14 to 9; brigandage without homicide is decreased from 3 to 1; usurpation and incendiarism have decreased from 132 to 114.

On the contrary, offences of fraudulent nature have increased to an enormous proportion. Swindling has increased, from 1880 to 1897, from 58 to 74; bankruptcy and commercial frauds,—from 3 to 14; counterfeit of documents and money,—from 45 to 47; frauds in commerce,—from 3 to 16; calumnies and forgeries of public documents,—from 8 to 16.

Thus, it may be said that during the last twenty years, the typical crime of violence,—homicide, has diminished one fourth, and that offences of fraudulent nature, on the contrary, have increased one fourth. The rest of criminality, said to be of violent nature, is on the side of fraudulence.

As will be seen, the following formula may safely be given: *Under the pressure of modern civilization, crime of violence diminishes, making place for fraudulent crime, which is augmenting.*

It is not difficult to understand the cause of this transformation. If I am allowed to draw a comparison, I wish to say that criminality resembles the medusa, this sea animal, which, colorless by itself, takes on the color of the water in which it finds itself. Crime, by analogy, having its roots in the society in which it exists, takes on the form and color of the society in which it exists. Thus, there were crimes of the violent type in the society based on a principle of violence,—the ancient society; crime of fraudulent nature,—in the society of fraudulent principles,—modern society.

This law of the transformation of crime under the influence of modern civilization explains admirably the geographical distribution of crime.

In the United States, the geographical distribution of the typical crime of violence,—homicide, is instructive to that effect. In the North and the East, where civilization is most developed, statistics show that there are only six homicides per 100,000 inhabitants. In the South, on the contrary, where pastoral life predominates over that of civilization, the number of homicides reaches 12 per 100,000 inhabitants. In the central states the figure goes up to 23 and even 28; brigandage is a very frequent crime there.

One might summarize the foregoing by the statement: *The least civilized countries tend toward having a higher percentage of violent crimes than those most civilized.*

As for crimes of the nature of frauds,—in Italy the following numbers are given per 100,000 inhabitants: 79, in the country; in Rome, 164, in Naples, 154 and in Milan, 108.

To summarize again, it might be said that: *The cities tend to furnish a lower number of crimes of violence than do the villages, but the cities furnish a higher number of fraudulent crimes.*

An analogous phenomenon is observed in the study of the distribution of crime of fraud and of crime of violence in the higher and lower social classes.

As civilization is always more developed in the higher than in the lower classes, the form of crime in the respective classes is that of fraud in the former and violence in the latter.

Even when the proletariat class is uplifted to the standard of the higher class, criminality does not disappear in the former; it is only transformed.

The researches on the last question might be formulated thus: *Riches and plenty do not diminish crime, but transform it. In the poor, crime is manifested in the form of violence, while in the rich it is seen in the form of fraud.*

The preceding demonstrates that crime continues to exist regardless of the welfare of a nation. Crime will always exist, as long as humanity exists.

Not only is crime being transformed with the progress of civilization, but the criminal acts and kinds are also transformed. The juvenile criminal is substituted for the adult and the feminine for the masculine.

Modern civilization tends, then, to augment juvenile and feminine criminality.

Within the last few years the increase in the rate of juvenile criminality in Italy has been 4%; in France, 39%; in Germany, during the last ten years, 29%; while in Austria, Hungary, Holland, Denmark and Sweden the figure reaches as high as 48%.

The function of civilization in this phenomenon is that of shortening the period of childhood and hastening that of adult age, the child becoming a man before he has been a boy.

Indeed, the best demonstration of the precociousness of childhood is the prevalence of suicide among children to-day. Recently, some fifteen boys, from twelve to fifteen years of age, had committed suicide in London in the course of one week.

The feverish life induced by civilization is also responsible for the feminine criminality. It has increased 25% within the period of 1890-1895. The most civilized nations furnish the largest number of criminal women: France, 15% of those arrested; Austria, 13%; Belgium, 15%, and Holland, 9%.

The crimes of to-day should be classified according to their kinds, as the scientist's classification must naturally differ from that of the layman. There is a variety that constitutes a crime *in all countries and at all time*; this variety includes murder, rape, parricide and brigandage. These crimes might be designated by the term *natural crimes*. Another variety of crimes, however, is that designated by part of a society that stigmatizes the acts of the other part as crimes; this variety might be called *legal crimes*. As civilization progresses there is a parallel progress in the transformation of *legal crime* (an artificial product due to the government of the minority) into *natural crime* (*La Scuola Positiva*, Nos. 11-12, 1901).

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THE EVOLUTION OF CRIME.

We publish in this issue an abstract of a study of the *Transformation of Crime and Modern Civilization*. On reading this article one is impressed with the fact that it has been written by a learned student, who, unhampered by preconceived ideas, looks facts straight in the face and states them as he sees them. The reasoning of this author regarding the influence of civilization on crime is most instructive. As civilization progresses, he claims, the lowest criminal manifestations, expressed by acts of violence, become transformed into acts of fraud. Laws are so many expressions of the moral standard of the society that creates the laws. Democracy, called by Balzac "dirty-handed giant," is the most active transformer of laws, and consequently of crimes, leading Society to a higher moral level from day to day. But crime will *always* exist, the author assures us; taking on that transformed appearance which is in harmony with the social coloring of the day.

While one must accept the author's statements regarding the main points of his argument, there is one point which we cannot accept without some slight protest. As has been stated above, we

are told that crime is constantly undergoing a process of transformation, the most horrible forms of crime decreasing rapidly and being replaced by crime of higher development,—fraud. But crime will always exist, we are told, so long as life itself exists.

This latter statement seems to us to be paradoxical, because it is suggestive of fatalistic notions rather than of scientific synthesis of the very facts so ably analyzed for us by the author. We concede that frauds, as recently exemplified in the United States by the army-supply cases, the postal frauds in Cuba and the numerous bank defalcations by “eminently respectable” citizens are psychic manifestations that should be designated by the term “crime.” But we are of opinion that the conclusion regarding the eternity of crime, even under its most refined forms, is too hasty, if this conclusion is based on the transitory form of criminal acts at a stage of gigantic process of transformation of a date so recent as is that of our civilization. Metamorphosis in things human requires time—a great deal of time; has it not taken centuries for the monkey to become transformed into the highest living being known to us to-day? It were rash reasoning, then, to pick out a certain state at an early stage of transformation and say: “The eventuality must be similar.”

Our civilization is as yet barren, recent and unformed, bowing under the oppressive weight of barbarism, while we smile sardonically and hypocritically, hesitating as a child does before taking the first independent step,—fearing to loosen hold on what *was*, yet longing to enter into what *is* or *should be*. It is in human nature to pine for the unknown; for that constitutes the subtle feeling called happiness. And as progress implies constant change, we move on, hastening, in our eternal search, to the temple called civilization, within the walls of which, we are told, is held the balm that heals all wounds.

STATE CONTROL OF THE FEEBLE-MINDED IN INDIANA.—

In 241 families with two or more generations of feeble-mindedness there were found 970 persons who were blood relations. The number of direct descendents who are feeble-minded is at least 726. The Secretary of the Indiana State Board of Charities, Amos W. Butler, says in part: The solution of this problem lies in an intelligent and general knowledge of the subject by the public, preventive measures by legal marriage restrictions and other means, the education of feeble-minded children and the custodial care of feeble-minded women (*Amer. Medicine*, Jan. 18, 1902).

HABITUAL DRUNKARDS IN LAUBEN.—The names of habitual drunkards in Lauben, Silesia, are printed, and a list is given to every saloonkeeper. Any person supplying intoxicant drinks to those subjects is liable to a heavy fine (*Med. Rec.*, Feb. 8, 1902.)

A CONTRIBUTION TO THE STUDY OF STEREOTYPIAS.

DR. A. CAHEN makes a thorough review of the bibliography and classification of stereotypias and states, in part, that: Stereotypia is almost always found to have originated with a delusional idea. Wernicke has made a point of this fact. Ideas of grandeur and especially those of defense and persecution are the delusions pre-eminently apt to be the causes of those phenomena. The ideas of grandeur and those of persecution, appearing late in the course of psychic diseases, when the mental condition is dulled, the will power enfeebled and the consciousness decreased in degree, are quite compatible with a condition of stereotypia. The idea which is eventually responsible for the manifestation of stereotypia is a conscious one at first, the patient being able to give account for this or that movement or action. With the course of the disease, the stereotypias develop hand in hand with the delirium. This is observed in many cases. Among many other cases, the one at Bicetre has the following history in support of this view: When fifteen years of age, the patient became subject to spells of choking; he did not lose consciousness, but felt literally asphyxiated. In order to relieve himself during those spells, he made a practice of sitting down in a chair and either turning his head from side to side or from above downward. At that time the patient suffered from mental excitement and over-estimation of self, beating his mother and declaring that he was above all the rest of the world. This delirium remained uniform during a period of some thirty years; he thought himself above Gambetta and spoke with disdain about Victor Hugo. His haughty feelings were expressed by corresponding external attitudes. His chest was thrown forward, the head was held high, the hands upon the thighs and the eye fixing his interlocutor. When 45 years of age he still made a practice of assuming the above described attitudes and of repeating the movements of the head as he was wont to do when a boy, but he could give no reason for the deed; he was then a complete dement.

The different theories relating to the stereotypias may be cited and criticized as follows:

Certain stereotypias are reflex (Binde). But a reflex act is a movement in response to a peripheral excitation of a sensory nerve. Stereotypias are not always originated in the peripheral organs or the spinal cord.

Some claim that these phenomena are manifestations of atavism; but this is a fallacious supposition; the acts being rather those of instinct; the instinctiveness shows to great advantage when the personality properly speaking is effaced.

Those who hold that congenital cerebral enfeeblement is the cause do not explain their thought thoroughly.

Stereotypias occurring in precocious dementia deserve notice when following catatonia. In the early stages of catatonia there is no regularity about its manifestations, no systematization of the acts. But take the patient at the end of the disease, and stereotypia is manifested in the typical manner: the patient is then a dement.

The stereotypias are particularly marked in cases of secondary systematized delirii. Dr. Seglas reports such a case in which the patient had his vocabulary reduced to one absolutely stereotyped phrase, summing up his whole delirium in a few limited words. Cotard's patient had a still more contracted vocabulary, which consisted of the word "no" of which he made use on all occasions.

In the differential diagnosis of the various tics, the stereotypias observed in hysteria and in epilepsy are of clinical importance. In hysteria one finds periods when the manifestations are absent; this is a valuable sign in the diagnosis of the affection. In the epileptic, the total unconsciousness of the acts speaks for their nature. (*Arch. de Neur.*, 1901.)

ON THE SIGNIFICANCE OF INDIVIDUAL STATISTICS IN THE QUESTION OF HEREDITY IN NEURO — AND PSYCHOPATHOLOGY. — DR. STROHMAYER reports this study in the *Munch. Med. Woch.*, XLVIII, 45, 46, 1901. The families of 56 patients were studied. The number of members was 1,338 in all; 413 (30 per cent.) were found to suffer from psychopathic or nervous diseases; 251 (18.6 per cent.) were neuro—or psychopaths; 595 (41.5 per cent.) were healthy; 42 (3 per cent.) were debilitated children; 55 (4 per cent.) were suicides; the number of healthy members in the individual families fluctuated between 0.87 per cent. Those who remained healthy up to the time of death amounted to 30 per cent. As to the special heredity when it is either paternal or maternal—nothing definite can be stated about that point. This is certain, however, when the heredity comes from both parents, the offspring's insanity is of graver form than when there is heredity on one side only. Psychoses which have arteriosclerosis for their basis are inherited by the male members preferably (alcoholism). Migraine and hysteria predominate on the woman's side. Generally speaking, heredity is polymorphous in its working. Homologous inheritance is seen mostly in cases of melancholia (in 5 families with 164 members, 30 were melancholiacs), mania, hypochondria,

epilepsy (in one family there were 7 and in another 12 epileptics), migraine, chorea, hysteria, and alcoholism. Physical stigmata of degeneracy are inherited to a marked degree (in one family which consisted of 23 members in the course of 5 generations, 15 members had discolored irises, besides epilepsy and insanity in the fourth generation). In cumulative heredity one finds mostly the forms of psychoses which were formerly designated as degenerative—paranoia, juvenile insanity, periodic insanities, anxious forms, feeble-mindedness, in a word—malformations and mental debilities. Strictly speaking, Morel's schema is not always applicable. The author knows of families all members of which are abnormal, without any one member being practically insane; in other families the degeneration came to an end without there being any apparent reason for the phenomenon.

The practical influence of alcoholic heredity is noteworthy: In 16 out of the 56 families examined there was an alcoholic parent at the head (*Schmidt's Jahr. der in-und Aus. Ges. Med.*, Helft 12, 1901.)

A CASE OF CEREBRAL TUMOR OF PSYCHO—PARALYTIC FORM (SENSORY APHASIA AND RIGHT HEMIPLEGIA.)—MM. J. ABADIE and L. DEPIERRIS report this case in the *Jour. de Med. de Bord.* The case is that of a large cerebral tumor which developed within the left hemisphere, the corresponding clinical symptoms being of psychic and paralytic nature.

The patient was fifty years of age and neither the heredity nor the personal history are of clinical importance.

A few weeks before death, some slight mental disturbance set in. There was loss of memory, defect of application and, while in the street, one day, a slight apoplectiform attack took place, without there being any loss of consciousness or paralytic phenomena; the only disturbances that followed were complete hebetude and some disturbances of speech.

The first examination of the patient was made on the day following this attack. The face was expressionless and bore a look of astonishment; there was no paralysis of the face or limbs. The sensibility to pricking was abolished almost over the entire surface of the body. There were no disturbances of the special senses.

The patient did not speak spontaneously; he had no verbal deafness; his answers to questions were slow and incomplete. Paraphasia was marked, the designation of objects called by name being done incompletely. The recognition of objects was incom-

plete, but that of people—exact. The patient could not write spontaneously under dictation, neither could he copy writing. Alexia was almost complete; he seemed absolutely indifferent to his surroundings.

The splanchnic organs were normal. At no time during this illness did there exist vomiting, headache or delirium.

A second examination was made one month later.

The sensory aphasia had become complete; the verbal blindness and deafness were absolute—the designation of objects was impossible and their recognition abolished.

A third examination was made five days later and it was found that right hemiparesis of the face and limbs had made an insidious onset without there being any phenomena of contracture. The paralyzed hand was œdematous and the aphasia was complete; the patient remained speechless, but his general condition was good.

Nine days later the general condition was quite impaired, the right hemiplegia was total and complete and there was hemianesthesia on the same side.

The patient died ten weeks after his admission to the hospital, without having presented any phenomena of pain worthy of record.

At the autopsy the viscera were found to be normal. In the left cerebral hemisphere was found a voluminous tumor, the size of an orange, developed at the expense of the external part of the lenticular nucleus, compressing the inferior parietal lobule, the Rolandic operculum, slightly the foot of the third frontal and especially the convolutions of the insula, which was pushed aside and flattened. This tumor could be enucleated with ease and was surrounded by some softened cerebral tissue, but there were no adhesions.

The posterior half of the lenticular nucleus and the optic thalamus had disappeared almost completely; the internal capsule was not destroyed, but was flattened.

The histological examination of the tumor showed that it was a glio-sarcoma with a predominance of sarcomatous cells.

In view of the symptoms presented by the patient during life—slight apoplectiform attack, incomplete sensory aphasia at first, and total aphasia later as well as progressive right hemiplegia—it was logical to suppose that there was softening of the cortical region of the gyrus angularis and of the insula, and that the cortical motor zone became involved secondarily. The autopsy showed, however, that the question here was not that of a cortical lesion, but of a central one; not of softening, but of a tumor.

During the development of this tumor there were no disturbances of function of either the organs or the senses, neither were there any visceral troubles—vomiting; there was even an absence of headache, which is a usual accompaniment of cerebral tumors.

The presence of the tumor was characterized by psychic disturbances only; defective mental application, verbal blindness, paraphasia and verbal deafness, a condition of persistent hebetude and by paralytic symptoms—total and progressive right hemiplegia with hemihypoesthesia of the same side.

This case should enter into the group of cerebral tumors of psycho-paralytic form as described by MM. Brault and Loeper in the *Archives Generales de Medecine*, March, 1900.

The authors of this paper differ, however, from those cited above as to the pathogenic action in such cases: it is reasonable to suppose that the symptoms were due to pressure by the tumor rather than to the neoplastic invasion, as those authors would have us think.

In discussing this case, the following remarks were further made:

The hemianesthesia, or more properly, the hemihypoanesthesia, on the side opposite the one where the tumor was located, must have been due to the encroachment on the optic thalamus.

M. Verger remarked that in such cases the diagnosis is confusing. There is verbal blindness and yet the centre of verbal blindness is intact. There is verbal deafness and yet its centre is intact also. In such cases, one invokes somewhat obscure reasons. Goltz, for instance, holds that inhibition has an active part here. It is difficult to explain these facts and the pathogenesis of symptoms of hemianesthesia of cerebral origin remains to be explained (*Gaz. des Hop. de Toul.*, Dec. 21, 1901.)

CEREBRAL SYPHILIS SIMULATING GENERAL PARALYSIS.— Jacksonian Epilepsy, Dysarthria, ocular paralyses.—DRS. E. BRISSAUD and ALPH. PECHIN publish this case. It presented the classical symptoms of general paralysis; some multiple and contradictory ocular symptoms, however, led to the supposition that the disease was located in the base of the brain. An important point in the diagnosis of such difficult cases is the fact that cerebral syphilis of the convexity of general paralysis is incompatible with gommata and sclerous syphilitic changes of the base of the brain. The patient is 43 years of age, highly educated and engaged in high financial business. He had contracted syphilis in 1887, and was treated for it at that time. In 1898, 21 years after

the infection, the disease manifested itself for the first time, in the manner described below.

He began to suffer from headaches, which were localized on the left side, in the temporal bone and in the posterior region of the parietal. On July 22, he had an epileptic attack (Jacksonian), which was preceded by disturbances of sight (broken luminous lines before his eyes). During the succeeding few weeks he was doing well, excepting that he suffered from headaches in the left supra-orbital and temporal regions. September 18, he had a second attack of Jacksonian epilepsy which was preceded by a right brachial aura, while he was reading the daily paper; the printing looked to him like *Mirror Writing*. A third attack took place November 10; this was preceded by *motor aphasia*. Judging from the disturbances of speech observed, it may be supposed that the disturbance was not sensory, as is stated. The fourth attack took place March 23, 1899, and was also preceded by motor aphasia. The general health kept up in fairly good condition, and the fifth attack, preceded by an auditory aura and hallucinations of hearing (strains of music), took place June 1. The disease became severer from that date, as the attacks were not followed now by periods of intermission. The sixth attack took place July 10th, and the seventh on July 14th, the articulation of speech being very defective, and characteristic of paralytic dysarthria. The tremors of the tongue, however, were not typically vermicular in nature. His physiognomy was typically expressionless and there was clipping of words; he listened to orders given him by the physician, but could not execute them, although he seemed anxious to do what he was told; asked to write his name and address, he traced some unintelligible lines. The pupils were large and unequal, the reflexes exaggerated—especially on the right. July 14 and 22, there were two more attacks, followed by marked motor aphasia and after the last attack, paresis of the right arm set in; a slight degree of the same trouble was noticed a year previously.

In July, 1899, specific treatment was instituted and the patient seemed to benefit by it quite considerably. The ocular manifestations now made their appearance and enabled us to eliminate the diagnosis of general paralysis.

At the beginning of August, diplopia without strabismus appeared; two and one-half months later (October 15), the complete paralysis of the right sixth pair was followed by slight ptosis of the right upper lid and mydriasis on the same side. He was emmetropic and had insufficiency of accommodation of the right eye; consequently there was partial and incomplete paresis of the third pair. There were no alterations of the retina. Sight was nor-

mal. The iris reflexes, feeble on the right, but normal on the left. Accommodation on the right impaired. The fourth pair was intact. The right lid showed spasmodic contractions, especially when the patient's attention was not attracted to the fact. There was, besides, right facial paresis and complete deviation of the uvula to the left. The lower limbs had not been attacked. There were no psychic disturbances. The taste and movements of the tongue were normal. All the movements of the lower jaw were normal; consequently, there was integrity of the lingual, glosso-pharyngeal, great hypoglossal and the motor branch of the trigeminal.

The cause of this affection was now evident: there was a syphilitic arteritis of the base of the brain, especially in the circle of Willis, and thus the complex symptoms co-existed. It is of interest to note that in this case the development of the disease was quite late in making its appearance:—22 years after the infection took place. The third, sixth, seventh and tenth pairs were here involved. This is not astonishing when one considers the predilection of the syphilitic poison for the arteries of the base of the brain. The epileptic attacks with periods of intermission, transitory symptoms, right brachial paresis, motor aphasia, etc., were due to circulatory disturbances brought about by a temporary obliterating arteritis of the left Sylvian artery. In cases of this kind there is always the possibility of obscuring of symptoms by reason of gommata and infiltrations indiscriminately situated. Statistics on similar cases with reports of autopsies show that one cannot always adjust the symptoms to the topographical diagnoses. The patient has improved under treatment and is discharging his daily duties. (*Progres Med.*, Jan. 18, 1902.)

From the Journal of Mental Science, January, 1902:

1. THE NATIONAL MENTAL HEALTH AND THE WAR—Statistical reports on asylum admissions in Ireland, Scotland and probably in England, tend to show that there has been a decrease in the number of insane admitted during the period of the last war. Similar facts were observed during 1870, in France, and in 1861, in America. The war is looked on as having acted as a national mental tonic.

2. A CASE OF EPILEPSY FOLLOWING TRAUMATIC LESION OF PREFRONTAL LOBE.—Drs. URQUHART and ROBERTSON publish this case. The patient's sister was an epileptic. When eighteen years of age the patient sustained a fall, receiving injuries to the head and remaining in an unconscious condition, in consequence, for some weeks. Two years later epil-

epsey of a severe nature set in, the patient dying in status epilepticus, twelve years later. The autopsy revealed the fact that the anterior part of the frontal lobe of the brain was the seat of softening,—doubtless the result of a hemorrhage that took place during the fall sustained by the patient.

Similar cases have lately been reported by Drs. Angiolella, Ventra, Pastrovitch and Modena. The reports of these cases will be found in: *Annali Di Neurologia*, 1898, p. 277; *Rivista Sperimentale Di Freniatria*, 1900, p. 896; *Rivista Sperimentale Di Freniatria*, 1900, p. 723.

3. TWO CASES OF LIPOMA OF THE BRAIN.—ADELE DE STEIGERT, M. B., publishes these cases. Case I, suffered from epileptic attacks at long intervals, the last ones having set in five weeks after the birth of the tenth child. The patient died in the asylum of pneumonia. The autopsy showed that there existed a lipomatous tumor; it lay over the corpus callosum, and curling around the knee there was a firm mass. It was one-fourth of an inch thick and the length was that of the corpus callosum. In the choroid plexus of the right ventricle was also a firm yellowish nodule about the size of a split pea. Microscopically, both masses were found to consist entirely of adipose tissue, enclosed by a capsule of fibrous tissue, thicker in some parts than others. Between the tumor and the corpus callosum was some very gritty material, apparently a calcarious deposit.

Case II was that of a man, thirty-one years of age, who died in the asylum of general paralysis. He was an alcoholic. There was a convulsive attack involving the left side; paralysis of the left arm and leg persisted. During the course of a year there was a repetition of the attacks, the symptoms predominating on the left side. The autopsy revealed the presence of the usual appearances in such cases of a thickened dura with wasted gyri. There was, besides, on the right side, over the superior parietal lobe, a patch of softening; there were granulations in the floor of the fourth ventricle. A tumor was found over and adherent to the posterior perforated space; the growth was hard, yellowish and about the size of a small bean. Microscopically, the neoplasm consisted of adipose tissue, with numerous blood vessels and a distinct capsule of fibrous tissue. Lipomas are rarely found in the brain.

4. NOTES ON THE PREFRONTAL LOBES AND THE LOCALIZATION OF MENTAL FUNCTION.—Dr. P. W. MACDONALD makes a cursory review of the theories regarding the localization of the centre of intellectual function in the brain. Some hold that the prefrontal lobe is the seat in question, while

others incline to the belief that the occipital lobe is the part of the brain thus endowed, Dr. C. Clapham being one who supports the latter view. The author of this paper is a believer in the "frontal" theory and demonstrates his view by a specimen of a brain of an idiot. In this brain there was a marked want of development of the frontal as well as of the prefrontal lobes, the empty space thus created in the cranium being filled out by an exaggerated thickening of the cranial bones. In this connection, attention is called to the fact that in general paralysis, which is characterized by dementia, the mid and fore brain are affected most. The prefrontal theory is further argued from the statistics below: of forty idiots and imbeciles, in twenty-five instances, the brain was of fair size, with no marked deficiency, but much irregularity in the convolutions; twelve showed marked irregularity with arrested development in the prefrontal lobes; in two cases the occipital lobes were small and defective, and in one instance both prefrontal and occipital lobes showed defective development and irregularity.

5. DEGENERATION OF THE OPTIC THALAMI.—Dr. J. B. BLACHFORD made a preliminary communication on four cases with degeneration of the optic thalamus. All the cases had a record of syphilis, the knee jerks were brisk in three cases and absent in one; sensation was normal in two cases; the gait was not ataxic in three cases and ataxic in one; the pupil reflexes were absent or sluggish in three cases and normal in one; the vision was defective in two cases and blindness existed in the other two. Mentally, the cases were those of mania, and three cases of dementia. In one case only was the diagnosis verified by a post-mortem examination which showed that the optic thalamus was degenerated, the anterior corpora quadrigemina being involved to a lesser extent. One is justified in attributing to the same cause the blindness in the other three cases, as the symptoms are very much alike; particularly, as the cases improved under specific treatment. Syphilis is at the root of this disease; it is found more frequently in men than in women and the ependyma of the ventricles is found to be granular, especially that of the fourth, a condition very frequently found in general paralysis.

Anatomically, one is astonished to find that in these cases, especially in the one where the autopsy proved the existence of a lesion of the optic thalamus, there was no general trunk anaesthesia; yet the fillet carries up all sensory impulses, except the visual and olfactory, the central, or spinal, fillet receiving all the sensory impulses from the trunk terminating in the optic thalamus. The pupillary phenomena can be explained in a way. If the anterior corpora quadrigemina are chiefly reflex ganglia, and the optic

thalamus-intercalary ganglion, between the optic tracts and the visual centre in the cuneus, then the predominance of visual over reflex symptoms or *vice versa* will depend on the centre that is first affected.

The role of the optic thalamus is sensory, according to Sellier and Veryer, but this does not include sensibility to pain. Dr. Engel published a case of tumor of both thalami, in which there was complete loss of taste and smell on both sides, deafness in both ears and sudden blindness in both eyes; death ended the case.

6. NOTES ON HALLUCINATIONS.—Dr. NORMAN makes some general remarks on hallucinations of the senses, laying special stress on hallucinations of hearing in the ear that is deaf. This variety of hallucinations has been observed by many psychiatrists; Calmeil commented on them sixty years ago; Brierre de Boismont makes mention of the same in his textbook. Ball and Regis have written on cases of hallucination in the ear that was affected with otitis media. Mabilie described a case of this kind in which the hallucinations ceased on the removal of a foreign body that was lodged in the auditory canal and that caused the hallucinations. Raggi reported a case of a drunkard who had unilateral auditory and bilateral visual hallucinations. In another old woman there were unilateral hallucinations of the right eye that was affected by a cataract, on the removal of which the hallucinations ceased, only to reappear in a worse form. It is possible that functional disease is more liable to appear in a centre thrown out of gear. The author reports a case where unilateral auditory hallucinations were due to plugging of the auditory canal with cerumen. But the patient had bilateral hallucinations of many other senses, which fact makes it difficult to explain the unilateral hallucination.

7. CASE OF UNILATERAL HALLUCINATIONS OF HEARING, CHIEFLY MUSICAL; WITH REMARKS ON THE FORMATION OF PSYCHO-CEREBRAL IMAGES.—Dr. ROBERTSON publishes a case of a sane man who had unilateral auditory hallucinations in the ear that was completely deaf; the right ear, although not perfectly free from deafness, was free from hallucinations. The man is somewhat musical and states that this disturbance began twelve years ago and has not left him since that time. The sounds heard are like those of orchestral brass instruments. The patient is aware of the fact that the sounds he hears are imaginary. The defect of the left ear, in which the trouble exists, dates back eighteen years. Dr. Barr, in commenting on this case, states that one of his patients

heard constantly the tune of some hymn. The first appearance of the hallucination followed a fall in which the head struck the curb stone; there was no organic lesion in the ear. Dealing with the formation of the psycho-cerebral images, the doctor mentions that the repetition of certain neuron vibrations corresponding to certain images predisposes the neurons to undergo the same vibrations under some special morbid exciting causes.

8. FEMALE CRIMINAL LUNATICS.—Dr. JOHN BAKER publishes a report on the subject alluded to in the heading, dealing principally with the medico-legal side of the question. A comparative table of brain weights of normal and insane criminal women is given, showing that there is a progressive decrease of the weight with age as well as with condition in the following order: Sane women, homicidal subjects and lunatic criminals of acquisitiveness.

9. SOME CASES OF PELLAGROUS INSANITY.—Dr. WARNOCK, of the Cairo Asylum, Egypt, states that between the years 1896 and 1900, he had received 141 cases of pellagrous insanity of which 92 were men and 49 women. The disease is always accompanied by grave disturbances common to pellagra in Egypt.

TUMOR OF POSTERIOR CENTRAL CONVOLUTION.—Dr. SCHLAPP presented a case with the above mentioned trouble to the N. Y. Neurological Society. The patient, a woman, had had a fall five years ago, sustaining an injury to the left side of the head. This was followed by attacks of loss of speech and twitchings in the right arm and shoulders. Three years after the accident, the twitchings had extended over the shoulder, and neck to the face and tongue. Latterly she had suffered from intense shooting pains in the limbs. There was astereognosis and impaired tactile and muscular sensibility on the affected side. There was no anæsthesia; the temperature sense was normal. It was diagnosed that the patient was suffering from a tumor in the posterior central convolution extending back into the parietal lobe. An operation revealed the presence of a yellowish and somewhat indurated area, about the size of a silver dollar, in the posterior central convolution. The microscope showed that this was not a tumor. Since the operation, the patient has had four convulsions, but the strength in the affected hand has improved. The case was presented as one having a bearing on the question of astereognosis. In astereognosis the pain and temperature sense are not usually involved, while tactile and deep muscular sense are involved. (*Bost. Med. and Surg. Jour.*, January 23, 1902.)

PARASITE OF EPILEPSY.—Bra announces in *La Press Med.* that in seventy cases of epilepsy he has found the blood of the patient, before the attack, a parasite that he has not been able to discover after the cessation of the attack. This microorganism, which has been cultivated, has sometimes appeared as a coccus, sometimes as a diplococcus, and sometimes in chains. (*Med. Record*, Jan. 25, 1902.)

CALCIUM IN EPILEPTICS.—Dr. L. Sabbatani, experimenting on epileptic patients, came to the conclusion that if epilepsy is due to auto-intoxication according to some, the specific auto-intoxication is due probably to the fact of lack of assimilation of indispensable elements; this defective function in the epileptic is due to a decrease of calcium in the system, leading to excessive irritability of the nervous centres, especially in the cortical region. Based on this theory, experimental treatment was administered to epileptics by giving them lime water mixed with milk; the results were most encouraging. (*Arch. di Psichiatria*, Vol. XXIII, Fasc. I.)

ON THE MENTAL DEVELOPMENT OF A CRETINOID CHILD UNDER THYROID TREATMENT. — Dr. TH. HELLER published the results obtained from thyroid treatment in a case of sporadic cretinism. The patient's history is negative. When two years of age he first showed symptoms of the disease and rapidly losing his mental faculties, became an idiot. The thyroid gland swelled up, the skin became thick, the extremities cold, etc. Thyroid treatment was given, in tablet form at first, then the fresh gland. The first changes for the better were observed to take place three months after the beginning of the treatment. From that time on the improvement was gradual; to-day, one year since the treatment has been commenced, the child shows marked mental improvement, giving hope of a permanent recovery. (*Wien, Klin. Rund.*, February 2, 1902.)

TREATMENT OF ACROMEGALY WITH PITUITARY BODIES.— Dr. KUH writes in *Jour. Am. Med. Ass.*, February 1, 1902, that the results obtained from the administration of powdered pituitary bodies in cases of acromegaly were satisfactory and that the treatment deserves further study. (*N. Y. Med. Jour.*, February 8, 1902.)

HUMAN ASYMMETRY. — Dr. W. S. ELY made a report on this subject, stating that the adult man showed marked asymmetry of body; that during childhood this feature is not marked, but that it developed with age. The asymmetry is seen in every organ of the body; the brain showed the feature to a marked

extent. Dr. MacDonald, commenting on the statement, remarked that some scientists show too marked a tendency to consider asymmetry in some subjects as signs of degeneracy. (*Am. Med.*, February 15, 1902.)

INSANITY AND THE POISONS.—Dr. MACLEAN, superintendent of the Eastern Washington Hospital for the Insane, in developing his paper under the above title, states that he recalls having heard Gen. Garfield say that man was “the joint product of Nature and Nature.” This was a pointed way of stating that man was the joint product of heredity and environment. The importance of good hygiene for the brain is urged and the various ways of the penetration of poisons into the brain are considered, such as alcohol, syphilis, etc. Eleven cases illustrative of the role of alcohol in the genesis of idiocy and imbecility are quoted from Dr. Robinovitch’s paper, published in *THE JOURNAL OF MENTAL PATHOLOGY*, June and July, 1901, and the paper concludes with consideration of autogenetic poisons in their relation to insanity. (*St. Paul Med. Jour.*, February, 1902.)

ON THE DETERMINING CAUSES OF THE FORMATION OF THE VISUAL ORGANS.—M. A. PIZON read a paper on this subject at the Paris Academy of Science. The conclusions were that the phenomena of vision are the consequences of accumulation of pigmentary granules in various parts of the surface of the body, these granules having the property of absorbing luminous rays. A gradual course of evolution leads on to the formation of the perfected visual organs. (*Prog. Med.*, January 11, 1902.)

HYDROCEPHALUS AND SMALL-POX.—M. SCHWAB reported this case to the Obstetrical Society of Paris. The child was born four months ago, with congenital hydrocephalus, the occipito-frontal diameter measuring 54 centimetres. Several punctures were practiced, but the liquid was reproduced rapidly. The history of the case shows that there was no syphilis of the parents, but that the mother had suffered from a severe attack of small-pox while pregnant with the patient. (*Progress Med.*, January 11, 1902.)

PROFESSIONAL TOXIC POLYNEURITIS. MM. SOUPAULT and FRANCAIS mention two cases of peripheral neuritis of the extremities which was caused by the use of benzine in the dyeing business. M. Dufour says that in such cases cerebral manifestations mark the onset of the disease. (*Progres Med.*, Nov. 2, 1901.)

GEOMETRICAL FORMS OF FACES OF NEAPOLITAN DELINQUENTS.— Dr. A. DE BLASIO has made a study of the facial forms and concludes as follows:

In Naples, the oval and normal ellipsoidal forms of face are characteristic of normal subjects.

When the above mentioned forms are found to exist among the delinquents, the latter are not of the worst type.

Modified outlines of the above named forms found among delinquents are generally either more elongated or shortened.

The lowest types have square faces.

The crime committed is generally in the inverse ratio to the shortness of the facial rectangle.

Finally, the triangular, orbicular and the rhomboidal faces are peculiar to subjects who practice petty thievery as a means of making a living. (*Arch. di Psichiatria*, etc., Vol. XXIII, Fasc. I.)

SPELLS OF ANXIETY, EPILEPSY AND HYSTERIA.— PROF. RAYMOND delivered a lecture on these subjects, stating the difficulties one finds in making a correct diagnosis in complicated cases. One patient, 13 years of age, became the victim of epileptic convulsions after a fright, while at play with his school-mates. The convulsive attacks set in on the day following the fright and had kept up their appearance daily afterwards. The peculiar features in the case consisted of the fact that the child did not always bite his tongue nor urinate involuntarily during the spells. This led to a search for the presence of hysteria and the examination revealed that there were disturbances of general sensibility: On the left arm was found a circular line of demarcation that divided the upper third,—anæsthetic,—from the two lower thirds,—hyperæsthetic. There was anæsthesia and hyperæsthesia, in an analogous manner, of all the senses.

Another case analyzed was that of tardy epilepsy, the origin of which was arteriosclerosis. (*Revue de L'Hypnotisme*, Jan., 1902.)

THE SENSATIONS OF AN ELECTROCUTED PROFESSOR.— M. A. BROCA'S experience of being severely shocked by an electric current while experimenting with a Rhumkorff coil is related in detail in the *Gaz. Med. de Paris*. He was holding two electrodes, one in each hand, when he was thrown violently to the ground; he did not lose consciousness, his thought being directed to the imminent danger of dying of cardiac paralysis. He tried to call for his assistant, but his voice had failed him. The sensation experienced by him as described in his own words, are as follows: "I had lost the sensation of possessing my limbs,

and the walls of the room seemed to incline to the right and to become colored in green; then I lost consciousness, regaining it after my assistant had cut the circuit. When picked up and made to walk, I had a curious sensation that no part of my body existed excepting the head and legs. I did not feel pinching, and the general sensibility was absent. The fingers, on the contrary, were the seats of hyperæsthesia. On touching a metallic ruler it felt to me unusually cold and I withdrew my hand. It was some fifteen minutes before I could move my fingers again, writing some words with much difficulty. On attempting to walk, I was overcome with dyspnœa. Some hours after I had returned to my rooms, on the fifth floor, I was taken with a severe cardiac attack; one the third day after the accident, all unpleasant symptoms had disappeared. (*Revue de L'Hypnotisme*, Jan., 1902.)

HYSTERICAL CRURAL MONOPLÉGIA.—Dr. L. G. SIMON publishes a case of hysterical monoplegia of which the following are the salient features: The patient was a boy, 13 years of age; two brothers are invalids, one being treated for infantile paralysis. Without any apparent cause, the child fell to the ground, in a chill, retaining consciousness; when he tried to gather himself up it was found that he had paralysis of the left leg. The child was taken to a hospital, and the evolution of the disease showed that it was of hysterical nature. Sixteen days after his admission to the hospital, he suddenly got out of bed and walked, after some hesitancy of gait. He presented, on examination, normal tendon reflexes, and disturbances of sensibility to pain, heat and touch that were quite characteristic of hysteria; notably, there was a variation and shifting, from day to day, of the intensity as well as of the locality of the general sensibility. (*Ann. de Med. et Chir. Infant.*, Jan. 15, 1902.)

A CASE OF CEREBELLAR CONCUSSION.—Dr. CAMPOS-HUGUENCY publishes a case of a man who, during a fall in which he struck his head against the curb stone, had received a severe contusion of the right occipital region. This was followed by a feeling of whistling in the left ear, tottering gait, forced movements on the right and a dicrotic pulse. The author asks whether it is not logical to admit the existence of commissural fibres of the auditory nerve, disputed by some anatomists. He also asks whether we should not conclude, from the symptoms found in this case, that the cerebellum has a functional influence on the heart action. Of the negative points, he mentions the absence, in this case, of dizziness. (*Gazette des Hopitaux*, etc., Jan. 11, 1902.)

A STUDY OF THE HEREDITARY EFFECTS OF ALCOHOL. —J. M. FRENCH reports, in *Medicine*, the following: From the statistics obtained from various sources it is evident that alcohol is the greatest cause of degeneracy, both mental and physical. Inherited inebriety develops rapidly at the first exciting cause. Such subjects are never moderate drinkers; they are generally drunkards. This disease is difficult to cure and the patient is apt to relapse. Of 814 children of alcoholics observed by Legrain of Paris, 322, or 40 per cent., were degenerates; seventeen per cent. were epileptic or hysterical. By adding 174 who had not strength to survive, but died of infantile weakness and debility, the percentage runs up to 61. Four per cent. showed moral depravity. (*Med. Record*, Jan. 25, 1902.)

SIMPLE HYPERTROPHY OF THE BRAIN.—M. VARIOT treated a child, 16 months old, who seemed to have had hydrocephalus, its head having measured 54 cent. in circumference. In six months the circumference augmented 2 cent. The child died with a temperature of 43 degrees C. At the autopsy there was little fluid found in the brain; the latter was of very large size and firm to touch. The ventricles were not dilated unusually. The brain weighed 1,640 grams. The hypertrophy seemed to be simple; the meninges appeared to be normal; the convolutions were apparently normal but their morphology seemed to be abnormal. The cerebellum and medulla were not of exaggerated size. No lesions were found, excepting pulmonary congestion. (*Progres Med.*, Jan. 18, 1902.)

THE PHENOMENON OF INHIBITION AND ITS POSSIBILITIES IN PATHOLOGY, ESPECIALLY IN ITS RELATION TO THE DISEASES OF MYXŒDEMA AND EXOPHTHALMIC GOITRE. — Dr. S. J. Meltzer read a paper under this title, at the N. Y. Academy of Medicine. He spoke of the important part that inhibition played in many functions of the body and suggested that in Grave's disease there was an exaggerated degree of lack of inhibitory activity while in myxoedema the contrary was the case. Commenting on this statement Dr. Thompson remarked that as the tissues were found to be surcharged with a mucoid fluid, which acted on the muscular and nervous functions very much as ashes do in the banking of the fires of a steam-engine, it was questionable whether increased inhibition should be taken here for the sole determining factor. (*Medical Record*, Feb. 22, 1902.)

CASE OF EPILEPTIC CONVULSIONS CAUSED BY A SHOE BUTTON IN THE NOSE.—Dr. STEELE published this

case in the *Laryngoscope*. The patient was a boy, six and a half years old, who had been suffering from epileptic convulsions for two years, having six or eight attacks daily; the mind also became impaired. It was found that the trouble was due to a shoe button that was lodged in the nose, between the middle turbinate and the septum, about the junction of the anterior and the middle thirds. After the removal of the foreign body, the child became free from the convulsions in the course of eight weeks. Two years later the child was still free from the disease. (*The Post Graduate*, Vol. VII, No. 1.)

THE SURGICAL PAVILION OF THE PUBLIC ASYLUMS FOR THE INSANE OF THE DEPARTMENT OF THE SEINE, AT THE STE. ANNE ASYLUM.—The surgical pavilion at the Ste. Anne Asylum is a culminating result of the efforts for centralization. The structure stands isolated from the rest of the buildings and is constructed according to the latest principles of modern surgery. The ground floor is occupied by the operating rooms, maternity wards and surgical dressing rooms; the basement is used for biological laboratories, sterilization of furniture, etc., and the second floor is occupied by dormitories. The operating room is divided by a partition into a septic and aseptic parts. The scientific principles of surgery are carried out to perfection by a strict division of the help, utensils, etc. (*Arch. de Neur.* December, 1901.)

INSANITY IN THE COUNTY DISTRICTS OF ENGLAND.—*The Med. Press* states that insanity appears to be greatly on the increase in the rural parts of Great Britain and that some county parishes are perfect hotbeds for the propagation of insanity. Intermarriage is said to be the cause (*Med. Record*, Jan. 25, 1902.)

THE PSYCHIC STANDARD VERSUS THE AGE OF MARRIAGE.—PROF. MARRO proves by statistical data that the subjects of countries where servility is most developed marry at a precocious age; in Russia marriage is contracted at an age of complete immaturity, while in England and the United States, where personal liberty is most developed, marriage is contracted between the ages of 20 and 30. In Russia the woman marries before the age of 20 years in 56% of the total cases. (LA PUBERTE.)

THE FUTURE OF THE NEGRO FROM THE STANDPOINT OF THE SOUTHERN PHYSICIAN—Tuberculosis, syphilis and malaria are very prevalent among the negroes. It is estimated that over 50 per cent. of the negroes are syphilitic. The number of still-born children is large in consequence; the negro also succumbs readily to pneumonia. His tendency to crime also leads to the decrease of their number by murder, the noose and the stake. As amalgamation with the white race is denied him, his ultimate disappearance may be expected (*St. Louis Med. Rev.*, Feb. 1, 1902.)

AMUSIA, TOGETHER WITH A CASE OF INSTRUMENTAL AMUSIA IN BEGINNING PROGRESSIVE PARALYSIS.—Julius Donath reports in the *Wien. Med. Woch.*, Oct. 3, 1901, the following: Memory pictures of every melody, every text, and the power to sing, to play, etc., occupy separate areas in the brain. This explains the peculiar forms of

amusia that have been recorded. The history of a cretinoid child $2\frac{1}{4}$ years of age is quoted, stating that the patient was an idiot, yet could sing fifty different melodies, but not the words that accompanied them. The case of instrumental amusia which the author reports is as follows: An illiterate gypsy musician about 39 years of age, while at supper, suddenly lost his speech. When asked to play, he could play only a single melody and a few chords besides; and no matter what he was asked for, he played only these selections. He was practically aphasic, and was unable to imitate words or songs. He could not play the pieces that were played before him, even though they had formerly been familiar to him. In time, the ability to speak and to play on the violin returned. The preservation of the power to play perfectly a single selection may be explained, the author believes, by assuming the intactness of the area in which the memory of this piece is stored (*American Medicine*, Jan. 4, 1902).

BOOK REVIEWS.

DIE BEZIEHUNGEN DES NERVENSYSTEMS ZU DEN THRÄNENORGANEN, ZUR BINDEHAUT UND ZUR HORNHAUT. — *Ein Handbuch für Nerven und Augenärzte, von DR. H. WILBRAND, Augenarzt, und DR. A. SAENGER, Nervenarzt, in Hamburg, Mit 49 Textabbildungen, 2d vol. of "Neurologie des Auges." J. B. Bergmann, 1901, Wiesbaden.* As the title of the book indicates, this is a work destined for the oculist and neurologist. The various ocular and facial paralyses with which one meets in practice are graphically considered in their relation to the corresponding nerves involved. The anatomy, physiology and pathology of the lachrymal gland and the ocular nerves are presented with dexterity as well as erudition. The function of the trigeminus is considered in its physiological and pathological relations, every statement being supported by numerous clinical demonstrations. Herpes, zoster ophthalmicus and keratitis neuroparalytica are considered at great length and in a most instructive manner. The clinical material is well tabulated for purposes of differential diagnosis and are most helpful guides in difficult cases. The book is in handsome, 8-vo., with 859 references of works in the text, as well as listed, and a handy alphabetic index of the subjects treated. Considering the insidiousness of the onset of ocular disturbances and bearing in mind the great importance attached to the timely diagnosis of these symptoms, every neurologist must, of necessity, be familiar with this special pathology; he cannot find a more helpful textbook for this purpose than is this volume. The book has 324 pages.

LA PSYCHOLOGIE ETHNIQUE. Par CH. LETOURNEAU, Secrétaire General de la Société d'Anthropologie, Prof. à l'Ecole d'Anthropologie, Paris. I vol. in -18, 556 pages, price, 6 francs. *Schleicher Freres*, Publishers, Paris.—This volume follows a large number of other works on ethnographical sociology written by the author. The various races are considered from the standpoint of their psychic development, beginning with the remotest periods of existence. While tracing these psychic outlines, the author slips a step back, giving a relative analysis of corresponding manifestations in animals, only to make the human psychology understood more clearly. Step by step, the history of civilization is led up to the present day, dissecting through the veil of what is generally termed by the word of "idealism" (morality, religion, customs, etc.) with the knowledge and insight of a learned scholar of many branches of science, art and literature. On reaching the last page of the work one feels like saying with the author: "How much ado has there been about the small mite we have accomplished."

The chapters dealing with the sexual ethics are both interesting and instructing. Many tribes, struck by the phenomenon of childbirth, went so far as to disregard the parentage of the father, that of the mother only having been recognized. In Sahara, woman was sufficiently alert to her generic importance to gain for herself a lofty position as a social unit, and could have vied with that of the progressive woman of our own day. From this state of cerebration to that of accepting immaculate conceptions there was only one step, and among many such conceptions was that of Buddha, who incarnated himself in the loins of his mother Maya-Devi, etc. At various stages of mental development there existed beliefs in immaculate conceptions of human beings through the intercourse of trees, or else, as seen in the Greek mythology, a father only was instrumental in such cases (Apollo, Minerva, etc.). The Chinese, whose sexual immorality is notorious, and who nevertheless profess profound esteem for chastity, have, among numerous other legends of immaculate conceptions, one that took place without participation by either father or mother. When there was only one man and one woman, the story runs, the woman refusing to sacrifice her chastity, the gods lit up such an intense light in her lover's eyes and made her gaze so responsive to his that a child was born from the exchange of those looks.

Among other phenomenal doings of woman, as recorded by history, is that of the Egyptian matron, who had the exclusive right of divorce, the marriage being based on the servitude of the husband.

The study of the correlation of religion to progress and civilization is most instructive and many a thinking man will profit by the reading of the religion of the Chinese in its relation to their progress.

COS'E IL GENIO?—BY ADOLFE PADOVAN. *Ulrico Hoepli*, Milano, 1901. The author deplores the fact that Lombroso considers genius to be intimately correlated with the various degeneracies. The writer proves that this view is untenable and adduces sound arguments in support of his opinions. If some men of genius manifested various morbid symptoms either during the period of childhood or during adult life, there are numerous men of genius who were perfectly normal and free from disease, either physical or psychic. Michel Angelo, Leonardo, Galileo, Spinoza, Titian, Voltaire, Goethe and Manzoni are examples of the latter types. A genius is born richly endowed with brain force and perceptive power. Genius may be defined as being "Uno state fisiologico di squisita, eccezionale sensibilita nervosa." The little volume has 62 pages and costs 1.50 lire.

THE NATHAN LEWIS HATFIELD PRIZE FOR ORIGINAL RESEARCH IN MEDICINE.

The College of Physicians of Philadelphia announces through its Committee that the sum of Five Hundred Dollars will be awarded to the author of the best essay in competition for the above prize.

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The treatment of the subject must, in accordance with the conditions of the Trust, embody original observations or researches or original deductions.

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The original of the successful essay shall become the property of the College of Physicians.

The Trustees shall have full control of the publication of the memorial essay. It shall be published in the Transactions of the College, and also when expedient as a separate issue.

Address J. C. WILSON, M. D., Chairman, College of Physicians, 219 South Thirteenth Street, Philadelphia, Pa.

BOOKS AND PAMPHLETS RECEIVED.

Prof. Raymond. CLINIQUE DES MALADIES DU SYSTEME NERVEUX. Hospice de la Salpetriere (Annee 1897-1898, and 1898-1899.) Quatrieme et cinquieme series. Deux volumes de 606 et 678 pages. *Octave Doin*, Paris.

COMPTES RENDUS DU CONGRES INTERNATIONAL D'ANTHROPOLOGIE CRIMINELLE. Amsterdam, 9-14 Septembre, edited by *Prof. J. K. A. Wertheim Salomonson*, General Secretary of the Congress.

Dr. Luigi Cappelletti. DI UN NUOVO IPNOTICO PEI MALATI DI MENTE: *Clorentone*.

Bourget et Roux. MONOGRAPHIES CLINIQUE NO. 28. La gastroenterostomie. *Masson et C-ie*, Paris.

Dr. Antonio D'Ormea. UN IDIOTO MICROCEPHALO.

Dr. C. E. Mariani. ALIMENTAZIONE DEGLI ALIENATI SITOFABI.

Dr. Augusto di Luzenberger. SUL TRATAMENTO DELL'IMPO- TENZA SESSUALE.

Dr. G. Asselin. L'ETAT MENTAL DES PARRICIDES; ETUDES MEDICO-LEGALE.

Dr. Felix Aughier. CONTRIBUTION A L'ETUDE DU RAPPORTS DE LA PARALYSIE GENERALE PROGRESSIVE ET DE LA DEGENERESCENCE.

Dr. Stephen Pallut. DE LA SORTIE PREMATUREE DES ALIENES.

Dr. Louis-Henri-Germain Grimaud. DE LA NEURASTHENIE SENILE.

Dr. Dusson. CONSIDERATIONS PSYCHOLOGIQUES ET MEDICOPEDAGOGIQUES SUR UN CAS DE DEGENERESCENCE.

Dr. Pierre Oudard. LE DELIRE D'AUTO-ACCUSATION.

Dr. Maillard. DE LA VALEUR CLINIQUE DU CYTODIAGNOSTIC CEPHALO-RACHIDIEN DANS LES CAS DOUTEUX DE PARALYSIE GENERALE PROGRESSIVE.

Dr. Efisio Murgia. LA VIRULENZA DEL DIPLOCOCCO NELLA SALIVA DEL 'UOMO A SECONDA DELL'ETA E DELLE STAGIONI.

Prof. Sano. LA RIFORMA DELL'INTERNAMENTO DEGLI ALIENATI NEL RELIGIO.

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No. 3.

ON THE FUNDAMENTAL NATURE OF THE DELUSIONAL IDEAS OF THE INSANE.

BY DR. G. CESARE FERRARI,

Editor *Rivista Sperimentale di Freniatria*, Italy.

I shall try to demonstrate in the following pages that the nature of delusional ideas is borrowed from the individual characteristics of the subject himself. This will be made evident by a comparison between delirious ideas of the insane proper and those caused by intoxications, or infections, as found during the course of fevers.

According to Richet, the delirious states which follow intoxications, excitants, anæsthetics and narcotics are characterized by hyperideation; the latter is caused by the action of the poison on the nervous cells, which preside over the intelligence.

Danillo (cited by Richet) confirmed these facts by his experiments; he showed that hallucinations and delirium, brought about in animals by absinthe, disappeared as soon as the grey cortical substance was removed. It would appear that the hallucinations are the result of cortical paralysis. According to Richet, these poisonous substances act thus on the brain because of their solubility in fatty substances.

As alcohol is the most commonly used poison, I shall consider its action on the human brain first.

The first effects of alcohol are those of a feeling of well-being, of satisfaction with one's self, and of felicity. This condition of optimism is followed by one of hyperideation—the result of intellectual excitation caused by the action of the alcohol on the brain; the subject becomes a prey to a multitude of ideas which combine with one another in rapid succession, having a characteristic common to them all—lack of proportion: the subject proposes to bring into execution many acts, but at the same time he remains inert as to action; all his activity is directed to the imbibing of more and more alcohol, which, in its turn, decreases the thoughts of care, and plunges the individual in a condition of beatitude; at this stage, the subject finds himself kindly disposed towards all around him; he becomes confidential, confiding his secrets to the first person who

will listen to him; he declares himself capable of brave moral acts, etc.

As the quantity of liquor absorbed augments, the intoxication increases, and the nervous centres finally become dulled, and paralyzed, and alcoholic coma follows.

In short, the action of alcohol may be expressed as being an excitant at first—the memory and imagination being in a condition of exaltation; this exaltation may be ascribed to paralysis of the selective attention and inhibition of the will power. This is the reason, perhaps, that artists resort, sometimes, to the use of alcoholic stimulants when vigorous imagination is required for their creations, and when they wish to be enabled to give the imagination unrestrained sway.

This artificial excitation of mentality may sometimes serve to whip up some dormant idea, but repeated indulgences of this nature never lead to profitable explosions of useful intelligence. No normal individual can claim truthfully that he has ever found alcoholic stimulation helpful in co-ordinate or conscious reasoning of any kind. This is due to the fact that alcohol is a powerful inhibitory agent of the faculty of attention.

Chronic alcoholism also gives rise to delusional ideas, but they differ from those manifested during the course of acute alcoholism: in chronic alcoholism the delusions are pretty nearly alike in all subjects; the delusions during the course of acute alcoholism, on the contrary, differ with every individual, according to his intellectual culture.

In chronic alcoholism there are always the same clinical manifestations: malaise, mental depression and fear—all corresponding to an enfeebled organism, which incapacitates the subject for any work. The illusions which follow are generally dependent on the enfeebled condition of the sense-organs; the hallucinations, ideas of persecution and zoopsia are also the results of enfeeblement.

OPIUM changes the general circulation of the brain, although we do not know exactly in what manner. About half an hour after the drug has been swallowed, the subject experiences a feeling of well-being (1), which is followed by one of pleasant drowsiness. Just before the drowsiness sets in, the subject feels that he could be master of any situation, but he enjoys the sensation of rest too well to take part in activity. The limbs become flaxid before the intelligence shows signs of inactivity. Little by little, the mentality also becomes effaced and is accompanied by incorrectness of perception: near-by sounds appear as if they were struck at a marked distance; the surroundings become more and more indistinct, until they seem as if enveloped in a mist, the individual becoming

conscious of a great silence around him, and in which he feels as if his body were almost immaterial. Ideation also changes: every problem seems easy of execution, and life is seen in its best colors. De Quincey compares the action of opium to the capacity of the bee to elaborate honey from the substance found in fat as well as from the rose; like the bee, opium seems to dominate every situation, attuning to its tuning fork all circumstances.

All that surrounds the subject bespeaks a serene display far above the vulgar scenes of every day life: precious metals, soft and valuable stuffs and things in unison with royal purple abound about him, and harmony of sentiment binds him to those near him.

These expansive ideas are not only characteristic of the intellectual, but they are met with in the unintellectual people as well.

The period of pleasurable excitation is followed by one of somnolence. The subject is then in a perfect condition of beatitude. nothing annoys him—everything seems harmonious to him; he makes no attempts at action, satisfied with what seems to him to be existing around him.

HASHISH, like the drugs above considered, also has a powerful modifying influence on the intelligence. The action of this drug merits a close study from a psychological standpoint.

The effects of this drug are felt about half an hour after it has been injected. The subject experiences then a sensation of a change in his normal condition: there are phenomena of motor and sensory irritability in the spinal cord. There are acute pains along the spine, in the neck and in the limbs. There is a sensation of cold in the hands and feet, this sensation increasing gradually. The subject experiences a desire to stir, and at that stage, a sensation of heat takes place in the head; but all these curious manifestations do not cause the subject any anxiety or preoccupation. He seems, on the contrary, rather contented, and seems conscious of the fact that he is in good humor; he laughs on the slightest provocation, although he is quite aware of the fact that the incident which has provoked his risibility is insignificant. This period of easy risibility soon passes away and the subject feels serene again; he feels and knows that the action proper of the drug has set in. Up to this moment the subject was yet a normal man; but from the time the substantial action of the drug sets in, the normal ideation gives way to one that vies with the most unbridled insane imagination.

Richet describes this state as follows:

"It is like a continuous performance of fireworks, a fountain of lights that reach out in every direction: the ideas follow one another with the rapidity of a whirlwind; the ideas come and go,

crowding one on the other without any apparent order ; but a close examination shows that all this takes place with a certain association of ideas and impressions. The subject talks with much animation, almost with furious energy, and seems astonished that his listeners do not share with him his enthusiasm ; he is angry at the slowness of their perception. In vain he tries to explain to them his sensations : his own power of speech is too slow for him and his ideas, whether exalted or sad, proud or humble, generous or base, are always exaggerated. A true hypertrophy of ideas takes place in a subject in this condition."

An ordinary annoyance grows into a poignant grief, the individual weeping over his unlucky fate. The simplest things of life acquire an extreme dramatic significance, and simple remarks, such as "it is late" or "the wind blows" are made in most dramatic tones of voice. The laughter is just as immoderate and disproportionate as is the crying, one phase merging into the other almost without any transition period. At this stage the sense of fear of ridicule attains its height, the subject watching eagerly the finest quiver of his listener's lips, on the alert lookout for anything indicative of mockery ; at the same time, the subject has a most exalted idea of his own superiority of intellect and keeps on mocking at his friends' ignorance (2, 3).

I shall now consider delirii caused by some other poisons.

COFFEE may give rise to a variety of delirium analogous to that seen in delirium tremens. In the delirium caused by coffee there is almost always present some physical element that plays a part in the disturbance (anxia precordialis, apnœa, exaggerated heart beats, etc.), which is caused by the abuse of coffee.

THE LEAVES OF COCA AND THE COCAINE SALTS also cause a marked delirium. Anrep demonstrated this by experiments on animals. Soon after the injection of the poison the animal appears frightened, it trembles, and every noise produced within its hearing causes it to suffer acute fright. After this period, the psychic scene is changed—the fright is replaced by a condition characterized by playfulness and feverish exaltation, the scene closing with a profound sleep of several hours' duration.

According to Mantegazza, cocoa produces only an exaggerated activity in ideation and speech ; the effect varies, however, with every individual. Richet, for instance, has not noticed symptoms other than a slight degree of insomnia, after the injection of a moderate amount of cocoa leaves.

ATROPINE has, in its turn, its individual characteristics in bringing about psychopathic phenomena. Most frequently, it causes a delirium analogous to that induced by the action of alco-

hol; there are spells of furor which end in uncontrollable laughter. This accounts, perhaps, for the names given to the plant—(*solanum folatrum, maniacum, furiosum, etc.*) The mydriasis caused by the atropine often acts as a cause of intense and persistent hallucinations.

To sum up what has been said regarding the action of drugs on the central nervous system: there is a more or less marked and prolonged mental disgregation, which is due either to an excitation of the mechanism of ideation, or of association of ideas, or to a lack of inhibition.

DELUSIONAL IDEAS CAUSED BY FEVER.—Before going into any details concerning this subject I wish to remark that the delirium which occurs during the course of acute fevers bespeaks a predisposition on the part of the subject so affected; the fever, the insomnia, anæmia and inanition—are all so many exciting causes acting on a favorable soil and helping produce exhaustion of the nervous system and the subsequent delirium.

Emminghaus(4), Wiedermeister(5), Mendel(6), Marandon de Monthy(7), Barrier and Ballet(8) have supposed and even admitted that under certain circumstances there existed a direct relation between the form of fever and the corresponding delirium which was caused by it. Richet(9) affirms, with more cautious prudence, that it might be said, at least, that certain psychopathic symptoms appear to be more prevalent in some fevers than in others; he is inclined to believe, nevertheless, that the nature of the delirium is determined by the toxines of the respective infections.

Silvagni(10) examined ten cases of various forms of febrile infection in connection with the delirii which were manifested; he concluded that, at all events, it might be accepted as a fact that where there is an excessive production of toxic material in the system, the predominating ideas during the course of the delirium are those of being poisoned. It must be remarked, however, that in those cases one had to deal with delirious ideas, but not true delirium, and besides, those persons were more or less predisposed hereditarily.

DELIRIOUS IDEAS OF THE INSANE.—First of all, the remarkable feature here is the absence of variety of the ideas. Morselli divides the delusional ideas of the insane into ten groups; ideas of perplexity and vague preoccupations represent those groups, which might be classified as follows: personal humiliation and degradation, remorse, physical alteration of the personality, persecution, ideas of grandeur, mystic ideas, expressed by erotic and impulsive ideas, and those of negation.

I shall not stop to make an analysis of the various forms of the

delusions mentioned; I shall rather consider their formation, and then the mechanism by which they master the subject, once these ideas are formed.

Morbid as well as delusional ideas take place in the same manner as do normal ideas, when there exists an imperfect mode of adaption of the internal to the external life of the subject. So long as the subject's act harmonizes with the stimulus that gave it birth, no false reasoning takes place, because there is no cause for its existing. The cause that brings about sickly reasoning springs up when there is some interference with the individual's adaptation to his surroundings. This simple step in the genesis of morbid ideation could well be followed in the initial stages of the development of religions, science, industries and other developmental branches which characterize social progress. They all go through similar stages of development, faltering here and there, according to the characteristics of the subjective and collective cerebration of the society which undertakes the step of renouncing what *was* or *is* for what *should* be.

The development of delusional ideas of the insane goes through a similar scale of evolution, unlike the delusional ideas caused artificially by means of various drugs, intoxicants or toxins of organic or infectious nature.

The delusional ideas of the insane take birth *ab intra* and correspond to a certain logical reasoning of the individual who is thus affected. Contrary to what is observed in opium or hashish poisoning, for instance, we find that here there is no scintillation of expressed mental images; nor is there either the variability or the instability of conceptions observed during the course of delirium of infection. Here, on the contrary, there is a certain number of fixed ideas, always the same, regardless of the individual under consideration; the only difference that may be observed between these ideals of various individuals depends entirely on the difference of individual culture. Otherwise they are always alike, or, at least, they follow their courses of development in exactly the same manner in the same individual; besides, these ideas are of marked emotional nature, because they are expressive of the emotional side of the individual's personality.

These ideas are identically distinguishable in all subjects, because they depend in all on a modified and altered power of mentalization. As the mentalization represents the personality, the former cannot be changed without inducing marked modifications of the conscious "*I*."

The well balanced person differs from the insane subject in being able to check an erroneous flow of thought by sound mental

orientation. The insane, on the contrary, instead of checking the mental error, are rather spurred on in their erroneous mental flight, without seeking for the proper explanation of perplexing facts which exist in their imagination only.

Schuele's explanation of the development of delusional ideas coincides with the results of my own researches on this subject, which I have made at the Psychopathic Institute at Reggio Emilia.

Schuele says: "The perplexed *I* leans on the actual explicative perceptions, bending them to suit those for which he is searching. Under these circumstances, the patient falls under the influence of his hyperæsthetic attention, drawing distinct and intense perceptions from his vague and obscure ideas; and no sooner is the delusional construction under way than he reaches out for every fact, recent or old, that falls within his knowledge, contaminating it with a delusional and special significance to suit his primary conception."

The psychiatrist, who is in daily contact with the insane, is struck by the fundamental difference between the delusions of auto-intoxication or infection and those found in the insane.

In the infections, the impure, infected blood which circulates in the brain, gives rise to a number of mental images and ideas which, while spurring on one another, are unsystematized. In the insane, on the contrary, although there, too, there may be infected blood circulating in the brain, the effect produced is totally different; in this case the ideas are systematized, in unison with the fundamental tendencies of the individual and they dominate him as long as they exist.

The fundamental difference between the delusional ideas of the insane and those due to extraneous causes is as follows: in the insane the ideas always have an intimate bearing on the personality itself. That personality may be depressed, exalted, or tortured by them, but they always bear the imprint of the personality. This fact is explained by the reason that the cause which brings about these morbid changes does not come from outside, as is the case in instances of fevers, intoxications, etc.; here, on the contrary, these ideas are the products of the brain itself; consequently the delusions here spring from the organic, undifferentiated basis of the individual.

This principle is applicable to systematized delusional ideas as well as to simple ones. I think that I have made this point clear in a contribution published in the *Rivista Sperimentale di Freniatria* (11); although this demonstration seems theoretical at first sight, it is, nevertheless, highly practical. I have shown there that the affective life is similar in the normal and in the insane subjects

and that it is fundamentally wrong to interpret the disordered cerebration of the insane as being of a primitive origin, as it is in the paranoiac. So long as we persist in being guided by the false hypothesis just mentioned, so long will we find it difficult to delve properly into the study of insanity.

If these cases have been considered erroneously up to the present date, it was because they have been studied from the point of view of the marked symptoms which they presented at the height of the disease, instead of during the initial stages. From the standpoint of prophylaxis this question becomes very important.

The structure of the delirii will remain incomprehensible so long as the mental mechanism is confounded with the old theory of association; the question becomes more lucid, however, when we think of our ideas and mental images as being living units, and, according to the eminent American psychologist, units that exist and act individually.

The systematized delusions of the paranoiac are exactly analogous, in their construction, to the subconscious mentalization of the hysterical subject; Breuer and Freud explain this matter satisfactorily: in such patients the ideation has the imprint of the subconscious, and the patient, therefore, is unable to correct his mental course or apply to himself mental criticism. It is evident that the physician should have control over such cases from the earliest date when the disorder is noticed.

For the present, there exists a great deal of prejudice against consulting a physician when the disorder encroaches on the affective side of life. A mental disorder is given its legitimate chance of being cured, by an early consultation of a psychiatrist; but the public has yet to be educated in the matter of equal urgency in cases of affective disturbances. It is to be hoped that a proper understanding of the duty in such cases will soon be reached, and that these cases, the most important for early consideration, will be afforded the proper opportunity to receive such aid as the science of psychiatry has at its disposal to-day.

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POLITICAL ASSASSINS; ARE THEY ALL INSANE?

BY E. C. SPITZKA, M. D., OF NEW YORK.

(*Concluded.*)

In classifying the assassins generally according to the success or failure of their immediate object, I am constrained to establish a separate category for those whose purpose was accomplished by random destruction, without reference to any particular person; though the methods employed, the risks run, the terrorist aim and the characters and associations of the contrivers affiliated them to regenticides strictly so-termed. Like them these have provoked special legislation and necessitated special governmental vigilance. The Barcelona assassins, the Parisians Ravachol, Emile Henry, and Vaillant, and the "Invincible" Barrett—all executed after having imperilled lives by means of bombs or gun-powder, belong to this "pan-cidal" category, which I have designated "O." An apparent discrepancy in the tables, is explained by the fact that in some, the estimate is made on a basis of the total of plots, in others on the total of actors in the same plots. Both are required, as the destinies of the actors in one and the same plot were not always accomplished in the same way.*

*For example of the conspirators in the murder of Gustav III., Ankas-trom was executed, Lilienhorn and Pecklin banished. Ribbing and Horn fled and Bijelka committed suicide.

The number given as insane in several of the foregoing tables does not represent their actual proportion, but merely those assassins whose disorder was recognized and who were treated as insane by courts and juries. Among the executed, three at least, were of unquestionably unsound mind; that is, insane in a form so recognizable, that no physician of experience in charge of an asylum for the mentally unsound would have hesitated a moment to receive like patients; but would certainly have hesitated to discharge any one of them, after they had been placed under his care. The first is the case of Bellingham. Here the mistakes seem to have been rather errors of omission on the part of the defense perhaps due to the hampering effect of a now obsolete system of legal practice. The second is the case of Guiteau, whose conviction required a more extensive apparatus, and where acts of commission meriting a stronger name than "errors" were deemed necessary to secure the punishment of a lunatic, whose insanity was notorious at the time of and long before the assassination of President Garfield. The third case in which errors of omission and of commission were combined into a monstrous mistrial, a very monument of medico-legal malpractice, was that of Prendergast the assassin of the mayor of Chicago, Harrison. The termination of this case still seems like an enigmatical dream.

The ratio of aggregate suicides and insane, among 277 persons involved in the crime considered, is not quite one-fifth (19.13); of insane alone, less than one-seventh (13.71), and of suicides alone slightly over 6 per cent. (6.13). It should be borne in mind that I have here retained several cases of what Regis calls false regicide; among them two he specially mentions and whose records I am indebted to his paper for. The motives of the insane are sometimes so curiously contradicted in the execution of their acts that I have not thought it proper to discriminate between this or that one according to the inclination of his pistol when he fired. If the bullet had struck a prominent personage it would doubtless have been regarded as a regicide's missile; and if the discharge of a blank cartridge were to inflict serious damage the using such would scarcely be regarded as a mitigating circumstance.

At all events, by including these items, the chance of any invidious distinction is avoided; for, if there be an error herein, it is in favor of the position which I take different ground from.

The preponderance of Paranoia among insane regicides might be presumed *à priori*. The formation of a deliberate purpose like the premeditation of the means to carry it into execution, presupposes a power of systematized thought, perverted though it be. Equally does the entertainment of a pertinent delusion or the con-

struction of a morbid project presuppose the same power of consecutiveness. One might class these regicides crudely according to the two more frequent lines their dreams take: one a depressed form, wherein the patient is the central figure of a conspiracy and unjust treatment directed against himself; the other an expansive one, in which as the purifier, the reformer, the Messiah, he is again the center around which all revolves, and on which all depends.

If definitions were necessary each of these two classes would require a particular one inapplicable to the other in this direction at least.

It is the expansive form which more nearly approaches what I shall venture to call, functional exaggerations within normal limits, represented by lunatics of the Ravaillac class. As those reflect some dominant idea or tendency of their day in hypertrophy, the insane analogue presents a reflection both monstrous and distorted. Usually regicide propensities when likely to develop in members of this family are intercepted before their development into sources of public danger, through early collisions with law or with public prejudice. When their mission first moved them to prophecy, to proclaim against or to enjoin a wicked and unappreciative community or a narrow and overbearing magistracy, the stocks, the pillory, the galleys and sometimes asylums were provided for their cure—and in more primitive times, more effectual if less ceremonious remedies were doubtless employed. The history of not a few insane regicides is that their disorder had been previously recognized, as was the case with Sefeloge, Guiteau, and—as interestingly related by Regis—"Migelli." The failure to carry out Dr. Reed's suggestion in the second, the premature discharge in the last-named instance were responsible for the death of Garfield and the dangerous assault on Deputy Feraud; as neglect to heed the timely warnings in Sefeloge's case led to the wounding all but fatally of the Prussian king.

If the "false regicides" counted in the table were to be considered also from a clinical point of view as included, the contributing clinical forms would be numerous, and might comprise practically the entire domain with the exception of atonic melancholia, stuporous insanity and the deepest grades of congenital and acquired defects. Even epileptic insanity may thus be made to figure in the series.

While it were not impossible for other forms, like parietic dementia in its initial phases, to lead the patient to contemplate and—extremely rarely—attempt regicide, traditionally so regarded, the psychosis typical with the insane actors is paranoia;

and of all its forms the most frequent in turn *paranoia originaria*. It is in the gradual transition of this condition through the "insane temperament" and "borderland" into sanity that the exceptional doubts of the legitimate alienist have their source.

Since the occurrence of suicide has been mentioned in relation, some data thereto relating may not be amiss.

Among those enumerated as suicides three, Norcross, Ryssakow and J—— were killed by their own explosives under circumstances which render it beyond question that the act was one of premeditated self-immolation.* Marcellus, the Byzantine, killed himself like Dymnus on the detection of a plot, with, as it proved, wise foresight from an ancient's point of view, for his associate, Sergius, was tortured and executed; Paris did so when his arrest was declared, Brutus and Cassius without awaiting that event. Blind, after wounding Bismarck, committed suicide in jail the evening of the same day. Sperandio killed himself after shooting his victim dead; Nobiling, after wounding the old Emperor William dangerously; and most recently a Nihilist after missing the Czar. Ortiz did the like on finding escape impossible, having shot at and wounded President Santos; and Bresci destroyed himself after having entered on his life-long term of imprisonment. Mrs. Justice, one of the Clerkenwell conspirators, made an attempt at suicide; as also did Pietrucci and deBurgal, the latter successfully, on finding their plots discovered and themselves arrested; Epicharis, in an interval of her torture, dashed her head against a wall and died Strozzi-like, rather than betray the other members of the anti-Neronic assassination plot, in connection with which, Libo also committed suicide at another place. In Norcross' and J——'s cases alone can I find reliable records or evidences pointing to mental disease.

Among the noteworthy features of these tables is the contrast between the relative success with which steel and firearms are employed by the two classes. It seems that the more determined and courageous an assassin of one class; and in another class, the more physically brutal, the more likely is the former to be employed. Clement, Ravailac, Felton, Anviti's, Rossi's and Rumpf's and the

*Only the agency of their own hands was lacking to technically constitute the assassination committed by several in the series, who were instantly dispatched, as associated suicidal act. The assassins of Alp Arslan and Amurath in the midst of the respective armies of their victims had not the slightest prospect of escaping such a consequence of their deed, and virtually were suicides. The same might be claimed in other like cases. The ending of their own lives was the main motive in the case of one insane and an initial one in that of a sane regenticide, Hadfield and Ladmiral respectively. These are not enumerated as suicides in the tables.

Duke of Parma's assassins, Corday, Louvel, Paris, Sand, Suleyman, Casario, Luchini and the Invincibles of the Phoenix Park tragedy, the latter three appertaining to the second class, show that with the gradual crowding out of steel as a weapon of war by firearms, it has by no means been correspondingly eliminated from the regicide's armamentarium. Indeed it is more successfully employed in the ratio of 3 to 2 than are firearms.

But with the insane it is different; the steel has failed them in every instance.* Whether it was an insane Merino priest, assailing a Spanish Queen, or Margaret Nicholson, the claimant of George III's throne, in most cases either no injury or mere scratches were inflicted, whereas with firearms the percentage of success was practically equal. The aim of Bellingham, McNaughton, Miller, Guiteau, Vera Gelo, Prendergast and the assailant of Archbishop Sibour was as deadly as that of Ankerstrom, Poltrot, Gerard, Czolgosz and the assassin of Governor Goebel; and of the fifteen who failed to kill, Arnold, Renshaw and Sefeloge inflicted serious injuries.

A second suggestive feature is that the use of such primitive missiles as stones and the like is confined to the insane exclusively. Frith and Collins of England, Schnapka and Weiland of Germany, being the instances.

While there are forms of insanity with which the highest degree of physical courage, firmest determination and fiercest purpose are by no means incompatible, yet such forms seem but exceptionally to lead the patient in the direction of regicide. As a rule the regicidal lunatic is not like Hadfield of a class which would enjoy the "imminent deadly breach," the revolver he more frequently employs is selected, because its use involves physical strength and courage least of all weapons of fatal potentiality. The revolver may prove as fatal in the hands of the coward as the hero's, the weakling's as of the athlete's; it may even succeed in the hands of him who, like Guiteau, is frightened "almost to death" at the report of the "first shot fired in his life."

As a rule we do not find the stamina manifested in the firm, sure-aimed and well calculated dagger-thrust of a Corday among the qualities of the insane regicide—as to the Degenerate, when the proclaimers of degeneracy dogmas shall have formulated what is *not* Degeneracy, it will be time to calculate its influence on this or other elements of the regicide mentality. At the present day to do so would be tantamount to an analysis of the human mind in general; for degeneracy, as alleged by some, practically includes our species as a whole.

*In this century and the two last; Ravallac succeeded in an earlier day.

The contrivers of mechanical devices in connection with mines and timing the explosion of bombs are more likely to number amongst them an insane comrade in the way of a project-fertile paranoiac inventor. Such a one, however, usually leaves the actual consummation of the fatal purpose to other hands, albeit, his legal responsibility is not thereby abated a jot from the status of a principal assassin.*

It is notable that in the small body of female regenticides, the relative proportion of the insane is much greater than among males. Something similar is found in certain tables relating to ordinary homicides. The influence of mental disease in giving rein to those propensities which are ordinarily held in check through modesty, diffidence and other attributes of normal and average femininity, may be supposed greater in case of regenticide than of ordinary murder. For as the former involves in addition to the factors of simple homicide the liberating from all those checks which are operative against emancipation, it, relatively speaking, enlarges the recruiting ground of those fitted to dare the publicity regenticide involves.

A corresponding relation appears to exist generally between the number of regenticides and the degree of emancipation attained by the female in particular countries and classes of society. Its maximum is among the female students of Russian universities, and associated circles. Here we have the Gelos, Peroskajas, Sas-suliches, Kalnuschnayas, and such. Few, if any, of the celebrated plots in Russia but had one or more female accessories or even principals. A large number is also found in France; the contribution of this land appears more considerable inasmuch as a longer period of emancipation furnishes the quota; for the same period of time it is really less than in Russia. France** contributes Corday, Migelli, Renault, Encore, Mignon, Leon (Gambetta's assassin), and the would-be assassin of Alfons Karr; England, Justice,† Nicholson and Yseult Dudley;‡ United States, Neil;

*About none of the individuals in the series, from which the statistics here given are derived, have I had such misgivings as to his proper place, as concerning Kibaltschitsch, the maker of the bombs thrown by Ryssakow with such fatal effect to a former Russian Czar. The data are imperfect. Among other facts it is mentioned that in prison and up to the time of his execution, Kibaltschitsch was busy with models of inventions.

**The would be assassin of Professor Deschanin, Vera Gelo, was, I infer, of Russian origin.

†Came from the United States.

‡Committed her crime in the United States, coming from Wales for the purpose. Her intended victim was a Fenian agitator, who had then been particularly active in urging on the terrorist outrages.

Germany, Schnapka. Of the Russian female assassins, one of six; of the French, three of eight; of the English, two of three, and in the American and German single cases, each was insane.*

The female ratio appears to reach the maximum at the time of the decline of Rome and the Merovingian reigns. From Messalina to Rosamonde and Agrippina to Amalasuintha a gradual transfer of assassin arts from the civilized Roman to the Barbarian immigrant can be traced; and as a later day saw the toxicological science developed by the Borgias carried over the Alps to the Brinvilliers coterie; so the mantle of the Roman and Gothic stranglers and poisoners, taking the same way, found worthy shoulders among the Merovingian and Burgundian Queens. Nor must we imagine the Barbarian soil unprepared for such corrupting seed, as the Utopian sketch of Tacitus would have us believe, for the chieftain, Abegandestrius,† is mentioned as having requested poison from Rome wherewith to experiment on the destroyer of those legions, for whose restoration Cæsar Augustus implored the shades of Varus vainly. Whenever the activity of the transalpine assassins flagged, another influx from Italy as in the day of a Medicean Catherine would infuse renewed activity and start a new school. From such a one, Scotland received the contrivers of the pioneer explosion-assassination of Britain, that of the "Kirk o' Field;" forerunner of the like scheme subsequently directed against the son of Darnley and Darnley's assassin, and against that Parliament destined to be attacked once more with the more dangerous explosives of the nineteenth century, but as fruitlessly as with the primitive one to which the "Gun-powder Plot" owes its name. Thenceforth thrones ceased to furnish regicides; from the palace their crime passed to the cabinet where the hirelings of Philip II and Louvois might receive their instructions and promises, seldom more than promises, of reward. Later the laboratory of the regicide became degraded to the remoter country-seats or dingy coffee houses; later still, to the boarding-house or hay-loft; eventually, unable to sink deeper, it found its hatching places in the hovels of misery, the editorial dens of revolutionary journals, and other purlieus of rascality.

With this transition the part of the regicide seemed to have become monopolized by the male sex; till, with the French Revolution, the female magnicide again made her appearance—not in

*I assume that Theroigne de Mericourt and Rosa Lacombe are not reckoned as properly speaking magnicides.

† Perhaps, however, as "*agent provocateur*?"

the guise she presents at the present day, for her motives approached the justifiable more nearly than under most circumstances connected with like offenders. With the disappearance of the revolutionary monsters and return of peaceful times the female again becomes absent from the annals of regenticide to reappear in our generation in the repulsive form of a creature who belies as she befouls the name of Woman; the prompter behind the scene of the dolt who carries out her malicious and purposeless design of regenticide as his "duty." The linen wrapped around the hand of Stephanus concealing the dagger to which the husband of prompting Domitia was to succumb, in the more modern shape of a handkerchief has played its part otherwise than as ambuscade concealing the weapon to which McKinley owed his death: it was Peroskaja's handkerchief that waved the signal for the casting of that bomb, which, in mutilating death, ended the career of the Emancipator of the Russian Serf.

In those to whom is laid bare the source of any social disease, expectation of a suggested remedy is naturally aroused. The panacea usually offered in the cases before us is either the Reformatory* or "Education." Like most specious solutions of similar problems the latter suggestion reminds one of the strategy of the Celt when in a quandary "answering a question by asking another." The kind of education calculated to divert the mind from a purpose so stupidly criminal as the murder of those in high station or power merely because of that station or power held, may prove difficult to determine, and again, to apply to those classes from which the regenticide of the present day is chiefly derived. So far is a prevalent kind of education from being antidotal to the development of the ill-regulated, embittered or desperado dreamer state of mind, which often underlies the regenticidal motive that

*Taking certain of our large cities, suppose we aggregate to the already so classed insane, idiots and deaf-mutes, its politicians, gamblers, tramps, habitual corner-loafers, chronic street missionaries, reformers, anarchists, yellow journalists and criminals generally in an institution for degenerates for purposes of restraint and (suppositious) treatment; drawing from the remaining "standard" population the necessary staff of directors, physicians, attendants, laborers, etc., what proportion would remain *outside* the walls of such institution. If not deprived of their franchise, it were conceivable that the institutional inmates in case of a "plebescite" might reverse the respective positions of the "ins" and "outs!" As it is their practical control of municipal government has been exemplified and more than one sober citizen experienced passions and contemplated projects differing from those of the "magnicide" only in their application; showing that such may be entertained by exceedingly well balanced minds and even merit the approval of a majority of intrinsically good citizens.

the forcible term "Gelehrten-Proletariat"* was given by Bismarck to the very class, from which demagogue adventurers, anarchist editors and other restless political "ne'er-do-wells" are recruited.

I do not regard even a special and well-directed educational plan as an absolute prophylactic of this or of any other crime. The practical question regarding the attainable, remains: what is best calculated to germinate in the virgin soil of the youthful mind that also as an object-lesson can be brought right before the eyes of the one who has not strayed too far in the path which leads the fanatic or the notoriety-seeker to his sinister end. Educational charts hold out some promise to prove the efficacy in this direction as they do in others. When I recall my own college experience there are particularly vivid, certain reminiscences of charts from which—and from no lesson or text-book, for these taught it not—the order of geological strata, topographical profiles, mountain-altitudes, decimal and other measures, racial types, and other faint glimmerings of ethnology and archaeology were assimilated,—and fairly well retained; whereas, of certain parts of the official curriculum, the less said, the better—and the still less than less said of what was not thereof retained, still better!

In the main the chart I have in view would inculcate its lesson from a utilitarian standpoint. To base any instruction of the class of minds it must be made applicable to, on altruistic grounds or on abstract moral principles would result in as much worse than a failure, as the crimes, which it were intended to prevent are worse than purposeless. The selfish Ego can, however, be with some prospect of success utilized as an indirect approach to the True and Good, when the latter may be demonstrated as at least not injurious and of relative benefit to the pupil in so far as deviation from the correct path inevitably proves not alone disastrous to the individual as well as to his cause *but may actually benefit the cause which is or which he regards as antagonistic*. Certainly few series of facts can be placed in such a striking array of unanimity of evidence as those in the tabulated chart of which I present a section as a specimen; the whole being of seventy-two typical cases.†

* A class of university-educated persons with whom the absence of worldly means is not made up for by transcendent talents nor by well-directed industrious application; in some respects not unlike a certain class of place-hunters, professional men and literati, in our own land.

† The more striking cases, historically considered had been selected, otherwise the chart would include practically all of several hundred, and absolutely all of that smaller class in which single assassins acted, or a few assassins coöperated, still numbering over a hundred.

NAME, DEED AND FATE OF AS- SASSIN.	PURPOSE OF ASSASSIN.	RESULT REALIZED BY THE ASSASS- IN'S ACT.
1. Charlotte Corday (killed Marat). Executed.	Salvation of Girondist fugitives, prevention of Marat's Proscription.	Girondists more fiercely pursued and destroyed. Reign of Terror established; Marat almost deified.
2. Paris. (Killed Lepelletier St. Fargeau Deputy for voting the King's death.) Suicide.	Royalist cause, and intimidation of the "Mountain" Party.	Apotheosis of the Martyr Lepelletier, the Terrorists strengthened, and last remnants of opposition silenced.
3. Admiral. (Attempt on Deputy Colot d'Herbois). Executed.	Demonstration against the Terrorists, and own death.	Colot, owed his life on a subsequent occasion to the wounds received; he showed the scars when threatened by a faction, and gained time to escape.
4. Renault. (Attempt on Robespierre). Executed.	Demonstration against the "tyrant" in behalf of Humanity.	Fortified Robespierre's position who became the object of hero-worship; in fact, R. wished the attack had been more serious; he envied Colot his "more eloquent scars."
5. Cambon, Limoleon, St. Rejant. (Infernal machine against Bonaparte). Executed.	To destroy the First Consul.	Strengthened Bonaparte by furnishing pretext for removal of many who would have proven obstacles to his scheme of imperial sway. Also killed some unconcerned people.
6. Cadoudal. (Conspiracy against Bonaparte). Executed.	Also to destroy the First Consul.	Discovery of the plot furnished the pretext for removing the last of these obstacles, Moreau, and the Empire established the following month.
7. Louvel. (Killed the Duke of Berri). Executed.	To prevent the propagation of the Bourbon line, whose sole channel of possible continuance rested in the person of the victim.	The Bourbon line propagated through a posthumous male child of the victim's.
8. Sand. (Killed Kotzebue). Attempted suicide and executed.	To punish the libeller of German students and vindicate University Freedom.	Liberal professors and students expelled, others fled; student-societies dissolved, universities placed under police-restraint. Thought fettered, and in the end it was found that the wrong man had been slain. The author of the libel was Stourdz.
9. Agent of Jesuits. (Attempt on King Joseph II. of Portugal).	To interrupt an inquiry into their management in Brazil,	Expulsion of the Order, not alone from the colonies, but from Por-

- | | | |
|---|---|--|
| | which threatened their prestige in the Colonies | tugal itself as well
Their chief Malagrida executed. |
| 10. Charagites of Kufa. (Killed Ali Ben Ali Tahib). Killed (?) | To destroy his innovating influence on religion. | Developed and spread it, the assassinated's name becoming the watchword of the movement. |
| 11. Persian Baburs. (Attempt on Nasr Edin). Executed. | To check restraints on their sect. | Sect exterminated through bloody proscription. |
| 12. Unknown Assassin of Papal legate Castlenau. Remained unknown. | Ditto: cause of the Albigenes. | As above. |
| 13. Clement. (Killed Henry III. Killed on the spot. | To avenge the Guise party and vacate the throne for the claimant of that party, pledged to destroy the Huguenots. | Throne filled by Huguenot King Henry of Navarre, Edict of Huguenot toleration. |
| 14. Chastel. (Attempt on Henry IV.) Executed. | To strengthen the Jesuit wing of the same party. | Jesuits expelled from France. |
| 15. Damiens. (Attempt on Louis XV.) Executed. | In the same interest, | Choiseul succeeded in getting the lethargic king to second efforts begun the following year, which ended in their Order being dissolved in France. |
| 16. Kullmann. (Attempt on Bismarck). Imprisoned. | In behalf of the Catholic or Ultramontane party. | Assisted more efficiently Bismarck's victorious "Kulturkampf" than any ally the latter had. |

Of instances in which a better man, even from the assassin's standpoint, was killed, and place thereby made for a worse, the annals are full. What became of Phillip's cabinet after the murder by his agent Taurion of the former's great Corinthian adviser? Wherein did Alexander III equal or approach Alexander II? What constituted the superiority of Carnot's successor that would justify the Italian's dagger, even from a Casario point of view? How did the White Boys enjoy the change from Chief Justice Lord Kilhaven to the one who next presided over the same court? Wherein did Rome gain in her transfer from Galba to Otho and Vitellius? Who succeeded Probus and Pertinax? Was there a possible "worse" of the two: Caracalla and his nothus Elegabalus? For Macrinus merely stepped in and out betwixt the murder of the first and the enthronement of the second. Did Amurath's death before the Amselfeld battle turn the scale of victory from the Turks? When, after destroying the Christian Army, the successor of the Servian patriot's victim had the captured French nobles beheaded, to whom did the latter really owe their death? Was not the vindictive slaughter to avenge that "patriotic" poniard-thrust? What ensured the accession of John the Spurious so much as the

reaction caused in the public mind by the "dynastic legitimacy" moved assassination of the former's mother? What provoked the bitter feeling that crushed the South under a notorious "Reconstruction Policy?" Methinks it was a bullet fired by a "Southern sympathizer," killing him whose prolonged life the South later knew it ought best have prayed for.

When the "Homestead Strike," of all labor-movements the best as to merit and conduct, was on the eve of triumph, what turned victory into defeat? It was that an anarchist, not at all connected with the strikers, suspected of being a spy, felt it imperatively necessary to remove that suspicion by some overt act like assassination; and had selected as his victim the superintendent of the works where the strikers were employed. This act against "the tyranny of capital" simply crushed the self-helping laborers' cause, although the deed was as unwarranted and unauthorized by these and done by an outsider equally as was the bomb-throwing by the Italians Pieri Rudio and Gomez ordered by their chief at the vestibule of the Parisian Opera.

There is one class of assassins of public men for whom a position in the chart would be difficult to establish; inasmuch as consistently with the title of their clan, the random acts of the soloists in the Anarchy *troupe* are too remote from any of those ordinary lines of human thought and action, to permit one's realizing any motive and purpose either theoretically, practically, abstrusely or concretely considered. Their murders cannot be attributed to a mere destructive instinct; it does not appear that a feeling embittered by envy of the wealthy, jealousy of the successful or the Marat-like one of hatred of wearers of clean linen; in short, anything that can be termed a motive,—no matter how despicable, stupid and vicious it were but after all, a sort of motive—provokes the assassin. Severally the last three of this sect to murder on our side of the Atlantic used two phrases in justification of their deeds; the one assigned it to a sense of "duty," the other phrase defined it as: not murder of the individual slain, but as an attack on a certain vicious principle the victim had represented. That the murderers, one of whom is yet in jail, one dead by his own hand, and the third by that of the law, were the authors of this last phrase, I regard as unlikely. The mind, originally molding the proposition quoted, would naturally realize the complementary one, almost automatically, namely: "if Mr. Anarchist kills Mr. McKinley, not as Mr. McKinley but as the representative of a system called a vicious one, the law will kill Mr. Anarchist, not as Mr. Anarchist, but as an active and tangible incorporation of Anarchy—called by no adjective, as "sufficient for qualification is the noun thereof."

The most efficient recruiting for Anarchy's *rank and file* is accomplished by speculative industrial combinations and the sudden vicissitudes to which—in the way of “shutting-down”—they expose the man who is skilled, able and willing to work.

But amid the incongruities of Anarchy's principles and *leading personnel*, which latter cannot plead the last mentioned provocation, one tangibility can be disentangled as the probable agent which maintains the chaotic thing in its particular erratic orb. The focus of fermenting, or inner circle of each group, includes with almost uniform constancy these ingredients, of which the three of subsidiary importance may in description precede the more initial and essential one; for it is their united instrumentality through which the fourth appears to operate.

1. The Inflammatory Orator: His earlier experience as a failure in the contest of existence of civilization, not alone has made him imbibe a profound hatred of the latter; it also furnished him with such fragments of knowledge, badly annealed into a system of sham logic, as amalgamated with his personal chagrin sustain the fiery tirades he delivers from the beer barrel.

2. The Tactician: Usually an idling mechanic whose ambition-prompted attempts to rise above his station failed, because not seconded by that industry or ingenuity which a tyrannical “system” makes a condition of promotion—at least in the department of skilled labor. He has, through desultory reading, acquired some knowledge of glycerine, nitric acid, picrates and fulminates generally; this, together with some reminiscent mechanical knack in handling wire, glass and sand, enables him to prepare death-dealing contrivances, as more speaking arguments of his creed, than those of Number One.

3. The “banneret” and Jean d'Arc of the group. This personage's exterior is usually a true index of the inner woman, making her influence alone explicable on the ground of the occasional contrariness of our species.*

4. Last comes the editor of the anarchist organ, whose title is “Liberty,” “Work” or the like; and whose motto is usually as applicable to the principles of Anarchy as the time schedule inscribed on a banner at one of its “Union Square” demonstrations is to the narrow-minded bourgeois limits of the actual number of hours in the day:

*In the Chicago group of “Haymarket fame” the representative of the third category departed from the Caucasian ideal, not only like her sisters, morphologically; but also in color.

“Eight Hours for Sleep!
Eight Hours for Work!
Eight Hours for Rest!
Eight Hours for Intellectual Improvement!

As to the epochal periodical, it does not employ a very large staff of foreign correspondents; and as it consistently refuses to avail itself of any “exclusive class” privileges,—such as paying for news obtained by a capitalized syndicate,—enjoyed by hireling journals, is constrained to await the appearance of the latter and publish such news, twenty-four hours later. To compensate for this short-coming, an overplus of spicing is had resort to. Turbulent editorials are concocted with the aid of Number One, and Number Two furnishes squibs anent heart-rending instances of the chicanery of capitalists shown in utilizing the product of the labor and skill of virtuous bread-winners, and passing it off as their own; or of such, feeding their employees on food, discarded as too venerable by twenty-four hours at the general market. All of this is as anarchical as may be; and can be declared inconsistent with the above indicated manner of obtaining and punctuality in delivering the wares in which a newspaper deals, only by hide-bound conservatives and by the “lick-spittlers” of our existing corrupt legal and social system.

But even the strongest editorial spicing cannot always make up for a deficient pabulum; and since collections of moneys are being taken up, through the editor’s unselfish instrumentality, of course, in behalf of “martyrs,” “victims,” “explosive materials,” “skirmishing funds” or the “Cause” and “Brotherhood” generally, something real,—the more sensational, the better,—must be done, and from time to time repeated, to keep the subscriber’s fever heat at that continuous level, essential to the editor’s continued existence, such as it is—spider-like, some may call it! Now imagine among the worshippers at the shrine, one who joins to the immaturity of youth, the enthusiasm of the novice; to which becomes added the kind of stimulus this establishment is so well calculated to supply! Of translation of empty phrases into substantial deeds, does he not see the very example concretely before him? Other journals—or rather the staffs of such—are content with preaching theories! Here he beholds the union of proclamation and visible labor into the propaganda of the bomb! Spell-bound in hero-worship, ambition and fervor on his own part; magnetized by the flattery of the sturdy engineer; inspired by the denunciations of the orator; and instructed in the use of handkerchief ambushes by the “Jean d’Arc,” he is prepared to do the act that shall “vibrate

through a world, shake its collective tyrants on their thrones and, reverberating through ages, echo his name to a grateful posterity." The extra editions of the "Workingman's Arms," "The Firebrand," "The Hammer of Liberty," "Bread or Blood," or whatever name the particular editor's "staff of life" bears, need not be mentioned at the time of ordaining the self-immolating Apostle of Action!

As to the application of restrictive measures at this fountain-head of regicide—not far from being regicide in another sense: since, beyond the crowned Majesties, the Majesty of the People seems threatened,—it is not my province to discuss the relative merits of two alternatives which naturally present themselves. One is the pensioning of the aforesaid Number Four;—the other three being harmless without the head, and hence not requiring special provision. This would deprive him of any temptation to work damage which is inseparable from industry limited to any sphere which is his. The other would involve an infringement on—to call it liberty were worse than irony—the license of the press. I hence content myself with pointing out the marrow of this, alternatively, Medusa and Hydra-headed monstrosity—where it seems, to me, to be located.

In this relation a second lesson to be drawn from an inspection of the chart mentioned promises to prove perhaps more valuably efficient than the original one intended and render the "pensioning" superfluous. As it's mere converse and hence, within the grasp of the simplest intelligence, it is not necessary for me to more than mention it, and point out its presumptive sphere of greatest usefulness. If, as the chart teaches, the assassination of leaders of an opposition be so useful to that opposition as to react injuriously to the assassin's party, it follows that his tactics must be reversed; it being desirable to create martyrs useful as such to one's own side, on that very side and not on the other. Now, inasmuch as human lives are not to be considered when the "Great Cause" of Anarchism (or whatever "ism" it may be) is at stake, let its most disinterested and courageous exponent scatter a half-dozen bombs or so, with the necessary initial velocity—not at a Barcelona theater, killing aristocrats and being garrotted for it six at a time,—but at a meeting of Anarchists; the more crowded, the better; clearing the atmosphere besides furnishing grounds for a flaming screed entitled "More Capitalistic Outrages!" "Bourgeois Assassins!" "Our Thunder Stolen!" Should this not prove quite as drastic as the "Cause" demands, a revolver placed in judiciously calculated proximity to the incorporation of anarchical journalism, the Number Four aforesaid, might be made to speak more ef-

fectively than the perforatee ever wrote. The ensuing obituary sermon would furnish Number One with a fresh opportunity, Number Two would learn where to place his contrivances so as to do the most good—not necessarily moving out of the way himself—and Number Three could change her traditional costume of fiery red for a more becoming black, and the role of Jean d'Arc for that of Medea.

The lingering suspicion is apt to haunt one that the various "Number Fours" active in their field may not take to this idea with that unselfish unanimity earnest devotees of their cause have some reason to expect. Else they would publish this chart, give it the widest circulation and supply the new subscribers, ambitious of magnicidal distinction, with an extra and clearly legible copy.

In an historical sketch of regicide I had occasion to refer to the transition from higher to lower classes in the personnel, the changes that have taken place in the outward guise and to some extent the intrinsic nature of the impellent motive; here I shall briefly direct attention to two other conditions, one closely related, the other analogous to the former.

Motives dependent upon momentary causes, mortified feelings, disappointed expectations, direct personal oppressions, insult to or injury to close friends, predominated in ancient times; and the destruction of the hated superior was accompanied by all the elements of the theatrical tragedy, in the visible rush of the arbiter of fate in the fateful blow and the equally sudden annihilation of the destroyer. While in the lands foremost in progress the personnel, the instruments and motives have like other matters become more prosaic, the lingering of the old with less advanced nations is as marked in this as in less tragical fields of human action. A few years ago one Hassan, a Circassian officer, rushed into a council of the Turkish ministry to avenge his chief, the deposed Abdul Asiz; before he could be overpowered he had killed two of the Ministers, among them Hussein Awni Pascha. As if to complete this atavistic record, that class of assassinations, which we had long supposed a relic of the Past the murder of sovereigns by a Camarilla, was re-enacted by Midhat Pascha and on the very Sultan to avenge whose dethronement the Circassian had enacted the magnicide reminiscent of Pausanias. Like this latter did the Mingrelian Dadeshkalian poinard aussian Governor-General Gagarin; and Cadich avenge his banishment on Danilo of Montenegro.

Even in civilized lands an occasional lapse of virtue on the part of a high-born lady led her to follow the example of her mediæval predecessor in the same predicament, driven by the same despair; namely, the assassination of the living evidence of her indiscretion.

It is the opinion of many, as it was that of the distinguished Jurist Feuerbach, that Caspar Hauser the mysterious waif was assassinated from this motive.

But on the whole this crime has descended from high places, and its tendency to select its actors from lower and lower classes, observable from epoch to epoch, is accompanied by a still more hopeful change, *the decreasing proportion of sane regenticides*.

This decrease is not exclusively inferred from the observable lesser frequency of regentical acts committed by the insane as we trace the history of the subject retrospectively. A stronger support is furnished by the comparison of the respective ratios in countries advanced to different grades of attainable perfection in civilization and governmental forms. It is found that in the states most advanced in these respects, the proportion of insane actors has become so large, that in the present half century, two countries of Anglo-Saxon origin may boast that half those resorting to the most hurtful and most stupid of crimes are of unsound mind; while in the lands most backward, a ratio of under ten, and even six per cent. is found. Nor is it the mere approach to or existence of a Republic that seems to be the factor here, for there are republics in the same part of the world, where assassination is rife and neither the public suspect, nor do the events show insanity in any single case; it is a question of race and the civilization of that race most largely.

There is, then, this hope intertwined with the prospect of future advance: that the contemplation of this crime may eventually become the monopoly of the lunatic. When that day shall have come, the interpreters and executors of law, our own profession and the people at large will doubtless have united on a policy of timely care of the mental invalids for the latter's own protection, as well as for the protection of society. In that day, regicide, through the sequestration of its then only possible source, no longer a danger, may, as a reminiscence of the Past, serve to adorn some tale of the "good old days of yore."

	MORTALITY IN RELATION TO THE NUMBER OF ATTEMPTS.	MORTALITY IN RELATION TO NUMBER OF PERSONS ASSAULTED.
Monarchs and Heads of Governments of the United States and France.....	15.4 per cent.	25.4 per cent.
Cabinet Ministers	45.0 "	50.0 "
Presidents of Republics* ranking as Second and Third-rate Powers.....	60.0 "	62.5 "
Police and Higher Officials.....	65.0 "	65.0 "
Petty Sovereigns and Princes.....	71.4 "	76.9 "
Military Officers	81.8 "	81.8 "
Higher Sacerdotal Officials.....	85.87 "	85.87 "

WEAPONS EMPLOYED IN 117 CASES BY ASSASSINS OF SOUND MIND.

	SUCCEEDED.	FAILED.	TOTAL.	RATIO OF SUCCESS.
Firearms	19	31	61	31.14
Steel weapons	21	22	43	48.76
Explosives	3	11	14	21.42
Stones and other missiles.....	0	0	0	....
Total	43	64	117	36.75

WEAPONS AS EMPLOYED IN 33 CASES BY ASSASSINS OF UNSOUND MIND.

	SUCCEEDED.	FAILED.	TOTAL.	RATIO OF SUCCESS.
Firearms	7	15	22	31.81
Steel weapons	0	5	5	....
Explosives	1	1	2	50.00
Missiles of metal and stone.....	0	4	4	....
Total	8	25	33	24.24

TABLE SHOWING THE NUMBER OF INSANE AND SUICIDES AMONG ASSASSINS, AND THE SUCCESS OR FAILURE OF THEIR HOMICIDAL ATTEMPTS.

	(A.)—INSANE.	MALE.	FEMALE.	TOTAL.
Succeeded in killing person aimed at.....	8	1		9
Wounded ditto	6	1		7
Killed exclusively persons not aimed at.....	1	0		1
Failed to inflict any injury.....	17	4		21
Total	32	6		38

	(B.)—SUICIDES.		
Succeeded in killing person aimed at**.....	8	0	8
Wounded ditto	5	0	5
Killed exclusively persons not aimed at.....	0	1	1
Failed to inflict any injury.....	2	1	3
Total	15	2	17
Total aggregate of Insane and Suicides.....	45	8	53

** Two appear in both tables, and should be deducted from the aggregate.

	SANE.			INSANE.			TOTAL.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.
Successful assassins not protected nor using surreptitious methods like poison	77	3	80	6	1	7	83	4	87
Ditto: did not succeed in realizing assault	25	1	26	..	..	..	25	1	26
Realized attack but only wounded or failed altogether	68	5	73	21	5	26	89	10	99
(Of these latter wounded)	(18)	(1)	(19)	(7)	(2)	(9)	(25)	(3)	(28)
Total	170	9	179	27	6	33	197	15	212

In both sexes, percentage of insane among successful = 8.04 per cent.

In both sexes, percentage of insane among failures = 20.80 per cent.

Percentage of total females of grand total, 7.07 p. c.

Percentage of total insane, 15 56-100 p. c.

Female insane of total females, 40 p. c.

Male insane of total males, 13 70-100 p. c.

Percentage of insane among insane, successful, 21 21-100 p. c. (including wounded, 48 48-100 p. c.).

Percentage of sane among sane, successful, 44 68-100 p. c. (including wounded, 55 30-100 p. c.).

FATE OF PRINCIPAL ASSASSIN IN 216 CASES OF ASSASSINATION OF PROMINENT PERSONS, AND 5 OTHERS ("O").

(In 147 cases the deed was committed by single assassins, in 69* by two or more in actual co-operation.)

	SUCCESSFUL CASES.	"O."	FAIL- URES.	TOTAL.
Capital punishment inflicted.....	45	5	66	116
Retributively put to death otherwise.....	15	..	5	20
Suicide	3	..	9	12
Sentenced to capital punishment, and sen- tence commuted to imprisonment.....	2	..	6	8
Imprisoned otherwise	1	..	10	11
Declared insane	4	..	23	27
Otherwise immune	5	..	1	6
Escaped or banished.....	2	..	2	4
Remained unidentified	5	..	0	5
Fate not ascertained.....	4	..	8	12
	<u>86</u>	<u>5</u>	<u>130</u>	<u>221</u>

* In these 69 plots the number of conspirators of whom individual mention is made in records is 130.

	SUCCESSFUL CASES.	FAILURES.	TOTAL.
Ratio of cases where* capital punishment was inflicted on principal offender per 1000, among those of ascertained fate.....	548	540	544
Ditto, put to death retributively otherwise..	182	40	98
Ditto, committed suicide.....	36	73	58
Otherwise punished, imprisoned, banished, or self-expatriated; and confined in insane asylums	109	336	245
Remained unknown or immune after legal process	121	8	53

* "O" excluded; in all cases of this class, capital punishment overtook the principal of, or all of the offenders.

THE GENESIS OF EPILEPSY CLINICALLY CONSIDERED. THE PATHOLOGY, PROPHYLAXIS AND TREATMENT OF EPILEPSY.

ILLUSTRATED BY CASES AND STATISTICAL TABLES.

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(Continued.)

THE RÔLE OF ABSINTHE IN THE PRODUCTION OF CONVULSIONS.

Absinthe induces true epileptic convulsions.—Its action is essentially convulsant.—The offspring of absinthe drinkers, like those of ordinary alcoholics, are apt to be epileptics.—Cases.

In case I we have seen how quickly, within the course of some few days and nights of heavy indulgence in absinthe, an active and most painful delirium takes place,—as contrasted with the slower development of the simple alcoholic delirium. We have seen, also, that in most cases of simple alcoholism, the epileptiform attacks require a certain preparation of the brain before they can be manifested; after some years' preparation, dizziness and vertigo appear, then come the epileptiform attacks. The action of absinthe, on the contrary, differs in this respect:—it causes almost immediate convulsive manifestations.

"It is not necessary to insist on the epileptic attack; the graphic tracings obtained during the attack, in the numerous experiments made on animals, establish the fact, in the clearest possible manner, that the convulsions are an exact reproduction of the epileptic cycle: tonic convulsions, followed by clonic ones, rapid and short at first, then more and more slow and distant, ending in rest.

"We know, besides, that the essence of absinthe causes delirium in the dog, and that the attack of hallucinatory delirium becomes the more manifest on the introduction of the poison into the stomach. Thus, in one of my experiments, twelve minutes after an epileptic attack, one sees, all of a sudden and without any provocation, the dog straighten itself upon its hind legs, the hair disheveled; its looks angry, the eyes are injected and brilliant. It directs its looks towards any point, although there is nothing to attract its attention, it stiffens, the neck is stretched, and the animal is ready to jump; it advances and retreats successively, it barks and struggles furiously, grinding its teeth, jumping abruptly to catch its imaginary enemy; it then shakes its head from side to side, the teeth close together, as if ready to tear its prey. Little by little, it becomes calmer, again gazes, growling in the same direction, then is reassured entirely.

"This delirious attack, so suddenly developed, explains the precocious delirium of absinthe drunkards. It develops as if after the administration of certain poisons, of hyosciamus, belladonna, or dature stramonium, and this rapidity in the development of the intellectual disturbances is one

of the distinctive characters between the action of absinthe and that of alcohol; the latter, indeed, needs, in some way, to prepare the soil, and it is only at the end of some weeks that the delirium develops.

"Finally, it happens that under the influence of small doses of essence of absinthe the dog stops all of a sudden, stupified, the head lowered, the tail hanging down, the appearance dejected, a stranger to all that is going on; it is in a condition of *petit mal*" (Magnan, *Recherches sur les Centres Nerveux*, p. 28, 1893, 2d. serie).

On man, as on animals, absinthe manifests its influence far quicker than does ordinary alcohol. The whole clinical *tableau* of alcoholic poisoning seems to be condensed, so to speak, within the shortest possible space of time. The excitation of the senses, the delirium, the muscular cramps, the dizziness, vertigo, and, finally, the *true epileptic* convulsions set in and follow one another in rapid succession. Where years are necessary for alcoholic morbid changes to be expressed clinically by epileptiform attacks, one year, or even less, suffices to bring about *true epileptic* attacks by the abuse of absinthe. The two cases below are illustrative of this statement.

Case VI.—Chronic absinthism.—Dizziness, flashes before the eyes, cramps, vertigo and true epilepsy develop in rapid succession. One child, born after the alcoholic habit is acquired, dies of convulsions in infancy.

R. A., 37 years old, entered the Admission Bureau, Ste-Anne Asylum, December 8, 1897. There is no detailed history of his antecedents, but from what can be learned there are no facts of clinical importance in the family history. The patient enjoyed good health up to the age of 29 years, when he began to indulge in alcoholic excesses. He took from one to seven "absinthes" daily. During the first year of this intemperance he manifested symptoms of absinthism: he suffered from painful hallucinations at night; he had cramps in the legs and arms; giddiness and vertigo were soon added to that clinical picture. He married in 1894, and the child that was born from this marriage died of *convulsions*, 22 days after birth. The patient continued in his excesses and, in 1897, the effect of the abuse of absinthe became most manifest; the attacks of vertigo now came on twice a week; there was ringing in the ears, and flashes before the eyes, but he did not have any frank convulsive manifestation. His comrades, however, had noticed that he was "losing himself" (*il perdait la tête*) of evenings. Suddenly, without any warning, he seemed dazed, and acted strangely after the spell. When told about the strange behavior he looked astonished and said that he remembered nothing of the incident. On December 3, 1897, he went to his work as usual, attended properly to his business throughout the day, but at 6 o'clock in the even-

ing he suddenly abandoned his work and left the shop without saying a word to any one. He did not return home, and after waiting for him a reasonable length of time his wife went to make inquiries at the shop. No one knew anything of his whereabouts and an alarm was sent out. The Prefecture of Police helped in the search; at the end of some three days the patient was finally found, stealing goods from a stand outside a store.

When brought to the Infirmary of the Dépôt and questioned as to his whereabouts during the three days, he could give no information; he had no recollection of having left the shop at 6 o'clock, nor about having been absent three days.

At the Admission Bureau he looked dazed, although he answered questions addressed to him. It was only towards evening of December 7 that he regained consciousness of his surroundings. All that had transpired, from the moment he had left the shop up to that moment, was a perfect blank to him.

Case VII.—Chronic absinthism.—Rapid development of true epileptic attacks.—Post-epileptic delirium of a grave nature.—Somnambulism.—Attempted parricide and homicide.—Traces of hereditary mental degeneracy.

P. G., 27 years old, printer, entered the Admission Bureau, Ste-Anne Asylum, March 4, 1899. His father, 50 years old, is a tailor, has a violent temper, drinks heavily and often suffers from severe attacks of alcoholic delirium. His mental faculties are impaired and he is in a condition of dementia. A sister is subject to hysterical convulsions.

The patient has been stubborn and refractory since childhood. At the age of four, he would leave the paternal house and on being questioned, would refuse to tell where he had spent his time. Later on, at school, he would leave the class room during a lesson and go wandering about the streets. He was of a violent disposition and beat children without provocation. He had neither diseases nor convulsions during childhood. When 14 years of age, he entered as apprentice in a printing house and soon became addicted to alcoholic drink. At the age of 19, he chose absinthe as his favorite beverage. Up to this time he had seemed to be in good physical condition; at least,—his health had attracted no attention, but after a short term of indulgence in absinthe he became much excited, tried to quarrel with those near him, and on one of these occasions, while quarreling, he suddenly screamed out and fell to the ground, convulsing in all his body and limbs. The attack lasted some minutes, the tongue was bitten and bleeding, and he passed urine involuntarily. He remained stunned and stupefied and then fell asleep for some three or four hours.

On awakening, the occurrence, from the time he had fallen to the time he regained consciousness, was a blank to him. Within the course of two months another epileptic attack took place; after that the intervals between the attacks grew shorter and shorter and on March 26, 1891, he was brought for treatment to the Admission Bureau, Ste-Anne Asylum.

His parents stated that after having indulged in absinthe he wandered away from the parental house and was absent eight days. At the end of that time he bought a revolver, loaded it and coming home, leveled it at his parents; he was about to fire when he faltered, shrieked and fell in a convulsive attack. On recovering consciousness he had no recollection of having attempted parricide. Nov. 16, 1891, marked his fourth admission to the asylum; he was arrested while engaged in a desperate struggle with police officers, threatening, knife in hand, to kill the first man who dared lay hands on him. December 13, 1895, he was again admitted to the asylum. His hands trembled, he had delusions of persecution,—people in the shop laughed at him, exchanged signs, with the intent of coming to an understanding about doing him harm, and made his existence intolerable. Exasperated by this, he felt impelled to kill his persecutors. He pulled a revolver out of his pocket and was about to shoot, when he hesitated and stopped in the act. But the impulse to kill was intense; he again leveled the weapon, but his will power prevailed, and in a supreme effort he succeeded in throwing the revolver out of the window.

He continued indulging in drink and, when about 26 years old, became a victim to daily convulsive attacks. His mother asserts that the severity of the attacks was proportionate to the amount of absinthe he swallowed. After the attacks the patient has post-epileptic delirium, as has been seen above. He fears that people are going to poison him, that poisonous powder is put in his meals, etc. Two months before the last admission he had hallucinations of sight; he imagined that he saw the poison, in shape of a powder, being put into his food. His eyesight is now beginning to fail him; objects look blurred and indistinct.

III.

ANATOMICAL PATHOLOGY OF CHRONIC ALCOHOLISM.

The study of alcoholism is closely connected with that of epilepsy.—The intimate cerebral changes seem to be identical in both cases.

As alcoholism is closely connected with the birth of epilepsy, the

pathology of alcoholism becomes one of importance in the study of epilepsy.

The pathology of chronic alcoholism, compared to that of epilepsy, has been the study of many workers in this line of research and most of them seem to agree as to the similarity of the microscopic appearances of the brain structure in both instances.

“Experiments on animals, in whom the intoxication does not attain as marked a degree as in man, show, nevertheless, simultaneously with the fatty degenerative process (steatosis) of the majority of the organs, liver, kidneys, and heart, a tendency to chronic inflammation of certain tissues: the pericardium, the renal and hepatic capsules and the meninges.

“In man, indeed, chronic alcoholism imprints itself in indelible traces in the majority of the tissues and organs; the connective network as well as the parenchymatous tissues are compromised at the same time.

“Is it necessary to call to mind the changes in the arterial system, the arterio-sclerosis, the atheroma which make of an alcoholic of 40 an old man of 70? This premature old age is translated, in the sphygmographic tracings, by an extensive flatness of the apex. The steatosis of the liver and the granular degeneration of the kidneys reach a marked degree; the heart is overloaded with fat and the muscular fibres themselves are invaded by the granulo-fatty degeneration. The brain, in an advanced stage, shows, sometimes, lacunae in the opto-striated layers and sometimes also hemorrhagic foci or more extended softenings in the centres as well as in the cortical centres. All observers find and point out the steatosis, the diffuse sclerosis, the chronic inflammation of the capsules or interstitial connective tissue of the small vessels.” (Magnan, *Recherches sur les Centres Nerveux*, p. 51, 1893, 2e serie.)

An English authority on cerebral pathology, Bevan Lewis, says, in speaking of the pathology of the brain of alcoholic subjects:

“Through the medium of the blood vascular system, alcohol, by its ready absorption and permeability, is rapidly conveyed to the most distant parts of the organism, establishing widespread constitutional disturbances; whilst through the peculiar selective capacity of the nervous centres for this poison, it thereupon expends its primary and most potent influence. Although in all cases the nervous centres bear the chief brunt of its attack, it by no means follows that the subjects of chronic alcoholism suffer in the same way. In one, the gastric, in a second, the hepatic, in a third, the renal and cardiac symptoms may come to the front; whilst in others, the nervous centres express the special virulence of the

agent in their direction. Undoubtedly, a *neurotic heritage* plays a foremost part in thus predisposing to more exclusive determination of the morbid agency up the higher nervous centres. A chronic inflammatory state leading to extensive atheromatous and fatty degeneration of the intima is the first apparent effect, associated with which we find parallel changes undergone by the adventitial sheath in the increase and fatty degeneration of its elements. Fat emboli are frequently established in the smaller cortical vessels during the progress of these changes, and the extensive dilatation and aneurismal states described above are probably direct results of the diminished resistance of the vessels, and paralysis of its muscular coat. An extensive *endarteritis* of a most chronic and insidious character affects the ultimate terminal radicals of the cortex, and, with the pre-existing change in the composition of the blood, leads to the devitalisation of the nervous tissues, undermining the nutritional stability of the nerve cells. The subsequent change of the interstitial tissue around, and the nervous elements themselves, apparently depends much on the subject's predisposition, which seems to be the chief determining factor in engendering the fatty or sclerous change which characterises these two classes of alcoholic subjects. In all alike, however, we find the tendency to degeneration of tissue in the replacement of the normal element by new connective growth; but in some we find a special tendency to extensive fatty changes in the nervous centres, so that the parallel degeneration seen elsewhere, as in the fatty or the sclerosed liver, seems to be also reproduced here. It is probable that the fatty change is altogether a *more acute* process, and the sclerosis the result of a much slower and more gradual poisoning of the tissues; the *fatty* change, however, is much more liable to be induced in the case of senile alcoholics. We may take it that the changes observed in the cerebral meninges as well as in the soft investments of the cord, when affected, are undoubtedly indicative of a *very chronic inflammatory* action proceeding in the vessels of the membranes, slowly involving the upper cortical strata; for thus only can we explain the frequent association of membranes opaque and thickened, and the permeation of the cortex along the vascular tracts by dense connective networks. Much of the opacity of these membranes is undoubtedly the resulting change of years of excessive indulgence, for it is induced slowly in all cases of long continued alcoholic indulgence, apart from the establishment of acute insanity; thus, in most criminals, who are notoriously addicted to drinking, we discover such opaque and thickened membranes and this usually in the postero-parietal regions of the brain. (Henry Clarke.)

Coincident with this implication of the membranes, a similar

change is found throughout the nutrient supply of the medullated substance of the convolution, which, as before stated, leads to important changes in the lowermost series of nerve-cells, the spindle-layer and medullated nerve-fibres themselves at this site. It is obvious, on examining several cases, that the one site may be chiefly affected to the greater or lesser exclusion of the other, and that, thus, a sclerous change in the principal zone of the cortex may preponderate over any morbid change at a greater depth, or that this deeper implication may be the more expressed feature, the pia-arachnoid being free from notable opacity and thickening. It is more usual, however, to find both areas affected, and this to a profound degree. Certain cases of chronic alcoholism approach, as we have seen, in their clinical features, the history of general paralysis; and when we come to the morbid anatomy, we find the membranes of the brain often presenting similar appearances, both as regards naked eye aspects and distribution of lesion. The vascular implication, however, is far different, and cannot be readily confused. In the one (alcoholism) the morbid change is centred in the atheromatous state of the inner coat; the numerous bulgings and fusiform dilatations being also highly characteristic of the chronic inflammatory implication. The outer or adventitial investment does not show the enormous nuclear proliferation which is so notable a feature in general paralysis; although in degenerated vessels it will be the seat of a profusion of scavenger-cells which entangle its walls in their processes. In the other (general paralysis), as previously stated the morbid change is concentrated in the adventitial sheath, and is a far more acute irritative process in the loose external tunic of the vessel, which explains the more rapid implication of the nervous structures lying immediately around by direct extension. It is on this limitation of the more gross change for a time to the inner tunic of the blood vessels in chronic alcoholism, that the *slow* (yet progressive) impairment of nutrition of the nerve centres depends, which so frequently issues in steady enfeeblement of the mental faculties, akin to the advancing imbecility of senile atrophy, in which similar changes of the vessel's wall occur. It is, on the other hand, in the early implication and rapid spread of morbid activity along the adventitial tunic of the vessels that the more acute changes are induced in the nerve-cells of the cortex in the general paralytic. When, however, superadded to the intravascular lesions we find sclerous tissue permeating the peripheral zone of the cortex, we have an invasion of those most externally disposed medullated fibres which are also involved in general paralysis. It is in such cases, probably, that the mental symptoms assimilate to those char-

acteristic of general paralysis. The sclerous shrinking of the new connective formation around the extensions from the underlying ganglionic cells, results in a degeneration which is ultimately transferred to these cells themselves, inducing the already described pigmentary and fatty degeneration preceding their absolute destruction and removal; but this extensive atrophy of these large elements of the cortex is coincident only with the advanced forms of alcoholic dementia; the earlier stage of vascular impairment, and the growth of the young scavenger-cells in the peripheral zone, ere the cells are themselves involved, being apparently associated with the maniacal excitement and early delusional perversions of alcoholism. It is certainly a remarkable feature that in both affections we get a similar implication of the vascular channels of the pia over the almost identical motor realms of the cortex; that in both the same nervous elements are primarily involved; and that, clinically, there are presented to us so many features in common between the two affections that it often becomes a moot point of diagnosis. This peripheral implication of the cortex would appear to us to explain the grandiose feeling so frequently commingled with the delusions of persecution, from which alcoholic subjects suffer; the notions of wealth, of landed possessions, of exalted social status, which we find so often underlying delusions of restricted liberty, or of malign influence brought to bear upon them. When, however, the motor cells and axis-cylinder processes are themselves involved, then we find the characteristic delusions of persecution predominate to the exclusion often of such optimistic states; and the profound implication of the "motor element" of mind may call forth ideas of restricted volitional freedom and reactive capacity. In all the more characteristic phases of chronic alcoholism, we never fail to identify these profound lesions within the white medullated substance of the fronto-parietal lobe, associated with the degeneration and breaking up of the large *motor cells* and *spindle-series*. Whilst, therefore, the cortical lesions of general paralysis indicate an invasion from without inwards, affecting the sensory elements and apical (? sensory) poles of the motor-cells; alcoholism induces, in addition thereto, extensive vascular changes from within outwards, implicating the medulla of the gyri, and effecting a destructive degeneration of the medullated fibres." (W. Bevan Lewis, *a text book of mental diseases*, p. 536-539, 1889.)

The preceding description of the cerebral pathology of chronic alcoholism is magistral. Although there have recently been published some contributions to the same study, there is nothing new to be found of essential value bearing on this question. The

younger authors devote some space to the dendritic degeneration, but, on the whole, the field is well covered in the chapter quoted.

In a chapter on the pathology of epilepsy, Bevan Lewis brings to light the important fact that the microscopic appearances of the brains of epileptics are similar to those found in subjects suffering with chronic alcoholism.

He says that the change in the cell of the epileptic is not peculiar to epilepsy. "It is found in other diseases and especially alcoholic brain disease. The nucleus of the cell is the earliest portion affected, the cell protoplasm being apparently secondarily involved (p. 522). With the atrophy and disappearance of the nucleus we find associated declining functional activity and ultimate degeneration of the cell itself. Displacements, distortion, degeneration, enfeebled vitality, and the absence of the nucleus are constant accompaniments of cerebral disturbances characterized by *loss of inhibitory control*. This idea is not in contradiction to the fact observed in acute anæmia, where the suddenly induced absence of nutrition causes,—on the mental side loss of consciousness, and on the physical side general convulsions (p. 526). A nutritive irritability underlies the morbid activity. Where mental disturbance predominates and actual insanity co-exists with epilepsy, there is a notable affection of a special series of cells, not exclusively seen; however, in this disease, for it likewise prevails in other convulsive affections, such as chronic alcoholism wherein spasmodic discharges of nerve energy are frequent (p. 525). With epilepsy is associated ancestral intemperance. Is it probable that the nuclear and cellular changes bear the imprints of ancestral vice? (p. 527). Disparity between nucleus and protoplasm, and the displacement or degeneration of the former, seem to bespeak a convulsive constitution." (p. 528.)

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(To be continued.)

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Original researches and other MSS. will be carefully considered, and if found unsuitable will be returned, if accompanied by stamped, self-addressed envelope. News items from Institutions will be given all space available.

Pleading for reform in the administration of the Criminal Law in the State of Maine, Dr. Addison S. Thayer, of Portland, Me., cites the history of five cases in all of which the defendants were convicted of murder in the first degree. The doctor clearly demonstrates that the "criminals" were hereditarily and hopelessly insane. Two of the convicted "murderers" died insane while under sentence, and three are now complete demented. In one case, eight medical experts testified, of whom five were called in for the State and three for the defense, and they all agreed that the defendant was insane and that his homicidal acts had been the results of insane promptings, but all this testimony did not avail: the defendant was convicted of murder in the first degree.

The significance of this attitude of the laity to professional opinion is not to be lost sight of. It shows that the public has no confidence in the expert opinions of the members of the medical profession. Where there is effect, there is cause. Is it not time that we recognized the fact that we need a higher standard of psychiatric instruction? Is it not apparent that the would-be psychiatrist cannot take his proper position before the tribunals of

justice, and before the community, until he has demonstrated his unwillingness to testify either for the defense or for the prosecution as an expert for the defendant or for the People respectively, pure and simple? The duty of the medical witness when called on for his expert opinion before the tribunal of justice is to give his opinion to the community regardless of any distinct interest. Our duty at the present moment is to see to it that a system of administration of justice is inaugurated that will do away with the hiring of medical testimony for this party or that and which will appeal to the medical expert in the same spirit as both contestants now appeal to the judge presiding on the bench.

In a fit of "political economy" a governor of a certain State in the Union recently recommended a reduction in the appropriation for School Funds. Commenting on this, the inimitable Mark Twain recently said that he recalled the results of a similar act in which a similar official indulged some years ago. The particularly irrelevant coincidence which attracted Mark Twain's attention was the fact that at or about the time immediately following the enforcement of this policy the prisons for juveniles in that locality experienced a remarkable increase in population.

On April 15, Gov. Odell of New York signed the bill introduced by Senator Brackett, amending the insanity law so that the Manhattan State Hospital, on Ward's Island, shall be divided and have separate Superintendents and stewards.

"THE TOMBS ANGEL."—Mrs. Rebecca S. Foster, a noble woman, who devoted her life to the task of improving the condition of prisoners, spending her money to afford them whatever comforts could be afforded them, gained the above name. She was killed in the recent fire at the Park Avenue Hotel, the worthiness of her life in her field of labor being emphasized by the void that her death has occasioned.

A NEW PSYCHOPATHIC WARD.—According to the *Medical Record* for March 22, 1902, a psychopathic ward has been founded in the building of the New York Infirmary for Women and Children. The trustees of that institution, through the influence of Dr. Alexander Lambert, have brought about this culmination of efforts in that direction. Dr. Ira Van Gieson is appointed Director of the Neuropathological Laboratory, Dr. Boris Sidis is appointed Director of the Psychopathological Laboratory and Dr. George M. Parker is Assistant in Psychopathology. Dr. Deady is to take charge of the ward.

EXPERIMENTAL RESEARCHES IN THE OLFACTORY SENSIBILITY IN GENERAL PARALYSIS.—DRS. TOULOUSE and N. VASCHIDE state that the study of the acuteness of the senses has been rather crude in method, as the instruments and substances employed in the experiments have been limited to pins, needles, bodies heated to an indefinite degree and odoriferous substances of indefinite strength. In their researches, relating to the olfactory sense in general paralysis, the authors have used camphor water of definite degrees, and comparative experiments have been made in normal subjects.

It was found that among the general paralytics the number of cases of anosmia (those who did not recognize any odor) was 8 out of 18,—almost one-third, whereas it is only one-thirteenth among normal adults.

Dr. A. Voisin gave it as his opinion that anosmia was one of the most valuable signs during the initial stage of general paralysis, when the diagnosis is of importance. He said:

“The diminution or loss of the olfactory sense, either on one, or both sides, is one of the signs to which I have long since called attention. Since 1867, I have been studying this phenomenon, its causes and its high diagnostic value.

This is one of the most priceless diagnostic signs in the incipient stage of general paralysis because: 1—It is almost always present; 2—it does not characterize any other disease than general paralysis, save some exceptional case (ozena, an old fracture of the ethmoidal bone; in simple insanity, the olfactory sense is rather augmented than diminished); 3—this initial sign may be found before even the tongue tremor and the inequality of the pupils are observed, and even before signs of enfeebled memory are manifested; 4—this sign is easy of recognition, as it is persistent, while the others are rather non-continuous in manifestation.

Pepper may be used as the odoriferous substance; if the patient does not recognize its smell while his eyes are shut, it is well to show the substance to the patient; if he does not recognize it, he is suffering from dementia; but if he does, then he is simply subject to impaired sensation of smell.

Most frequently the odoriferous substance does not produce any sensation; at other times there is a sensation, but it is perverted; the patient mistaking the odor of pepper for that of tobacco, or camphor; once out of ten times, however, the smell of pepper is recognized; the sense of smell may often remain intact on one side.

Hallucinations of smell are very rare in the initial stage of general paralysis, whereas they are very frequent in simple or neuropathic insanity.

These disturbances of smell depend on alterations of the olfactory nerves. In the beginning of the development of the disease, the general paralytic has a sensation of an obstruction or of the presence of a foreign body in the nares, or else there may be an itching sensation; the subject tries to extract the imaginary body from the nose, or else to expell it by forced blowing of the nose.

As the sense of taste is intimately connected with that of smell, the sense of taste is generally found to be impaired at the same time as that of smell.

It may be stated that the olfactory sense is generally gravely compromised during the first stage of the disease and remains abolished during the second period. This explains the reason why the patients do not seem to be incommoded by the odor of fecal matter, which they smear over their faces."

The authors have also observed the symptom of a sensation of foreign bodies in the nose among patients afflicted with general paralysis, but the disturbance was of tactile, not of sensory nature; besides, these sensations were seen to exist not only during the first period of the disease, but throughout the course of it.

The olfactory hallucinations of which M. Voisin speaks are rather false hallucinations, verbal images, relating to purely intellectual associations.

The point that is confirmed is the fact that the loss of the olfactory sense is a prominent symptom during the course and at the end of this disease. Ballet and Blocq were of the opinion that anosmia was a disturbance of trophic nature and characteristic of the advanced stage.

According to M. Voisin, the olfactory bulbs show, microscopically, degenerative changes in their anterior parts, but particularly in the regions of their apparent origins.

According to M. Voisin, this degeneration is akin to that characterizing the general cerebro-pathological changes found in general paralysis; but Dr. Collet thinks that the olfactory nerves are especially susceptible to this degeneration, on account of their anatomical structure.

The tactile sensibility test was made by means of ammonia water, which ordinarily produces a sensation of pricking or burning or of suffocation. The solutions were graduated, 1 in 10, 1 in 100 and 1 in 10,000, all at 22 degrees C. In the normal subject these sensations are perceived even by senile cases, in whom the sense of smell is completely abolished, and by the child in whom the olfactory sense is not yet developed; but in the paralytic subjects these sensations were decreased in proportion as the disease was advanced.

It is noteworthy that during the first period of the disease these sensations are little inferior to those found in normal subjects.

From these experiments it may be concluded, incidentally, that sensation and perception are two distinct elements.

General paralysis is essentially a type of dementia—intellectual feebleness. It is interesting to note also that the olfactory sense becomes abolished simultaneously with the intelligence, the sense of perception giving way first. (*Revue de Psychiatrie et de Psychologie Experimentale*, Feb., 1902.)

NEW TOXIC AND THERAPEUTIC PROPERTIES OF THE BLOOD SERUM OF EPILEPTICS AND THE PRACTICAL APPLICATION OF THESE PROPERTIES.—DR. C. CENI, basing his arguments on the numerous researches of various authors and his own work, concludes that epilepsy is due to an endogenous toxic principle. With this idea in view he experimented on epileptic subjects by injecting into their systems serum obtained from epileptics. Injection of small doses of such serum, instead of having a beneficial or a negative effect, brought about symptoms of true acute infection, as well as an aggravated condition of the epilepsy.

These results demonstrated, therefore, that the serum of the blood of epileptics contained a special toxic element.

This conclusion was strengthened by negative results obtained from injecting the serum of the blood of healthy subjects into epileptics.

The author then asked himself whether it were not possible to immunize an epileptic by augmenting artificially the specific toxic agent by injecting progressive doses of the poison contained in the serum of the subject's own blood, or in that of another epileptic subject. Where the subject's own serum was injected, the fluid was obtained during an attack, and several days were allowed to elapse before the injection was made, in order that the patient might recover from the effects of the attack.

The experiments were carried on during a period of two years and the results must, necessarily, carry some weight. Besides, the subjects chosen for the experiments were the severest in clinical nature, suffering at the same time from various psychic disturbances.

Ten cases were experimented on, both methods being used, and the dosage being progressively augmented. In eight of those the treatment showed its eminently therapeutic and reconstructive properties, while in two cases the serum acted as an epileptogenic and toxic agent.

In five of the cases, in whom the serum acted as a therapeutic and reconstructive agent, the serum was produced from other epileptics, while the remaining three were injected with the serum of their own blood.

Of the two, in whom the serum acted as an epileptogenic and toxic agent, the subject's own serum was used in one case and that of another epileptic in the other.

As for the effects produced in the eight cases, there was a noticeable improvement in the general nutritional condition as well as a striking amelioration of the pathological phenomena.

In six of these cases, who had been suffering from epilepsy for from 10 to 20 years, the fits decreased in severity and in frequency, disappearing completely in some, and the body weight increased from 6 to 10 kilograms, after a period of treatment of from 5 to 6 months.

In three of these cases, the treatment was suspended and the epileptic disturbances began to reappear, but to such a slight degree that even two years after the suspension of the treatment the return of the disease was only of a slight degree, and there is reason to doubt whether there will be a complete recurrence of the malady.

The other three cases, in whom the treatment had been similarly suspended, the amelioration was not impaired two years later.

In the two cases, belonging to the group of positive results, and in whom epilepsy had existed for from 3 to 4 years, the fits completely disappeared after the first month of treatment. After the fifth month of treatment, the body weight increased 10 kilograms in one and 29 kilograms in the other.

The psychopathic symptoms had also completely disappeared, the individuals presenting a normal appearance,—during a period of two years, and giving every indication of an accomplished final cure.

The two cases that gave negative results were suffering from congenito-hereditary epilepsy; not only were the results negative here, but there was a decided toxic effect produced by the injections, as there was a progressive increase in the severity of the attacks as well as of the mental condition, a return to their usual condition being effected only on suspension of the treatment.

These experiments show that the blood serum used had some active principle. It is now important to establish whether that active principle is peculiar to the serum of the epileptic, or whether it is peculiar to the serum of the human blood in general. In order to bring this point to light, the author made a series of control experiments on other epileptics, injecting into their systems pro-

gressively increasing doses of serum drawn from normal subjects. In none of these new cases could there be observed either positive or negative reactions, so clearly observed in the other cases.

The property of modifying the general as well as the specific conditions of the epileptics is contained, therefore, in the serum of epileptics and not in that of human blood in general.

It now remained to be determined whether there was a difference between the action of the serums injected from the subject's own blood and that obtained from the blood of another epileptic. Another striking fact to consider was that the serum of the same epileptic injected into different epileptics, gave opposite results, acting as a therapeutic agent in one case, and as a toxic and epileptogenic in another.

These questions will be treated of at length in a future work; for the present it is remarked that the question is easily explained on the ordinary principle of cellular regeneration. The serum of epileptics contains a specific regenerative agent; it improves the physiological condition of the cellular element in those whose cells are not degenerated past redemption, while it only aggravates the condition of subjects whose cell-degeneration has reached an advanced stage.

As regards the action of the serum of the epileptic's own blood, it must be supposed that the active principle circulates in the blood in a latent condition; that in the physiological condition of the blood this principle is soluble, remaining inert; but that it acquires its properties when exposed to external contact, and the blood elements cease to live. (*Rivista di Patologia Nervosa E Mentale*, November, 1901.)

A CASE OF ACUTE DELIRIUM.—DR. BUVET adds to the list of similar cases a case of cure of insanity by shock. The patient was born of alcoholic parents, was an alcoholic herself and was married to an alcoholic. She had lost her first child, who died of "convulsions" and was severely tried when her only living child, 4½ years of age, fell ill with meningitis. She was menstruating when this child died, and the flow ceased suddenly on that day. She became violently agitated and was taken to an asylum. There she kept up an unceasing and exhausting agitation. Although the urine was free from albumen, the case was considered as being one of toxic maniacal excitement. When she was admitted to Dr. Briand's wards she was given the serum treatment, one litre being injected at a time. There was a marked febrile movement and the maniacal excitement kept up during a period of three months.

While she was in this uncontrollable state of mental excitement,

apparently unconscious of her surroundings, she was conducted to take a bath. She was held in the bath room to await her turn, when suddenly another patient jumped upon an attendant and seized her head, intent on submerging it in the bath tub. As another attendant came up to help her comrade, the infuriated patient dealt some blows right and left, and turning again on her first would-be victim, seized her again and attempted for the second time to drown her in the bath tub.

The patient considered in this paper, terrified at the sight of the violence enacted, ran out of the bath room, screaming for help, and as she reached an alarm bell, rang it vigorously until help came. She then crouched in a corner, trembling with fright. The astonishment was great, however, when she gave perfectly rational replies to the questions addressed to her after this incident. Throughout the course of the three months of her illness she had never seemed to be conscious of her surroundings, and had talked most irrelevantly, often in incomprehensible words.

When questioned, she said that she remembered nothing of what had happened to her during the three months of her illness; she was astonished to find herself among insane people. She knew that the shock caused by the death of her child had made her ill, but she was all right now, she said. She was kept in the asylum two months longer; she improved steadily in her physical condition and was discharged as cured.

The author remarks that while he does not wish to contradict the notion that shock may cure insanity, he still attaches some importance to the beneficial effects produced by generous doses of serum in toxic psychoses. He has described the method in his thesis. (*Gazette des Hopitaux*, Jan. 14, 1902.)

See analysis of thesis in THE JOURNAL OF MENTAL PATHOLOGY, Nos. 4-5, 1901-1902.

A CASE OF CIRCULAR INSANITY, ALTERNATING DAILY, OF SEVEN YEARS' STANDING, IN A SUBJECT AFFLICTED WITH APOPLECTIC ATTACKS, WITH REMARKS ON THE SO-CALLED "CIRCULAR NEURASTHENIA."—DR. S. H. SCHEIBER published a paper on this subject in the *Arch. f. Psych. u. Nervenkrankh.* XXXIV., 1, p. 225, 1901. The patient was a physician in active practice, and there was nothing of note in his history; besides, he was a healthy man and had had no diseases up to the age of 57, when a severe moral strain brought about an apoplectiform attack, which was followed by paresis of the right lower limb. From that time on his psychic condition changed, marked irritability and depression replacing

his usual level temperament. A year later, a second apoplectic attack took place, and from that time on, for a period of seven years, he was subject to circular insanity that alternated every other day with normal mentality. Two years after the second attack a third one took place, then a fourth one which left the patient a helpless hemiplegiac. The point of interest in this history is the fact that the circular insanity became of a severer form after every apoplectic attack. It seems that in this case there must have been some psychopathic predisposition which, in conjunction with senility (the patient died at the age of 63), and the neurotic trouble, caused the onset of the circular insanity. In conclusion, the author made some statements relating to circular neurasthenia which, of late, has figured under various other names. (*Schmid's Jahrbuecher der Gesamten Medicin*, Feb. 15, 1902.)

ACQUIRED HYDROCEPHALUS, LUMBAR PUNCTURE.

—DR. CARAVASSILIS reports a case of acquired hydrocephalus which was cured by repeated paracentesis. As various other methods used in the treatment of this disease have failed to give favorable results, the author considers his method as being one of importance. The patient was a child, 7 months of age, who had suffered from acute gastro-enteritis with fever and eclampsia, acute hydrocephalus setting in as a complication. The child was in a moribund condition, the cranial measurements were increased in both diameters, (6 c. m. each), the anterior fontanelle was enlarged, the cranial sutures were enlarged, especially the antero-posterior (3 m. m.), and the circumference of the head was 45 c. m.; there was paresis of the lower limbs, diminished tendon and skin reflexes and general anæsthesia.

The first puncture was made between the fifth lumbar and first vertebræ, 50 c. c. of colorless and limpid liquid being drawn, and the operation being followed by no ill consequences.

After the operation, the diameter of the head was found to be reduced 3 c. c., measuring 42 c. m. Within the course of the next 20 hours the circumference of the head increased again, measuring 44 c. c.; besides, a new attack of eclampsia set in and was followed by paresis of the right hand. A second operation in the same locality as before was resorted to, and the head decreased in size as the fluid was being drawn. General treatment was given to relieve the symptoms, the size of the head remaining stationary during 48 hours following the operation. The fluid distended the head again to 44 c. c., however, and a third tapping was performed a day later, between the fourth and fifth lumbar vertebrae, drawing

30 c. c. of fluid. The amelioration was not immediate, but 24 hours later a decided improvement took place, the patient rallying, its mind clearing up and the paresis disappearing; convalescence and recovery followed and the child was perfectly well two years later.

The method was after Quinque-Chipault, using the Roux syringe instead of the trocar.

The author concludes that in cases of rapidly developing hydrocephalus surgical intervention should be resorted to without delay, as the disease otherwise generally proves fatal. (*Annales de Medecine et Chirurgie Infantiles*, December, 1901.)

1. TWO CASES OF NICOTINE PSYCHOSES.—DR. C. ZALACKAS publishes two cases of insanity caused by nicotine poisoning. Both patients were free from morbid heredity or other affections that could be incriminated as causes of the onset of insanity. One case habitually absorbed 0.005 milligrams of nicotine daily, or about two grams per year. The psychosis set in at first as simple melancholia, then there developed delirium with maniacal excitement. Total suppression of the use of nicotine was ordered, but, the patient being an inveterate smoker, alarming symptoms followed. Smoking of tobacco was then allowed in gradually decreasing doses and a thorough recovery took place. In the second case gradual suppression of the use of tobacco was also resorted to, and a satisfactory cure was thereby obtained.

2. PROPERTIES OF NICOTINE.—Nicotine is extracted from the plant *nicotina tabacum*; in its pure state it is liquid, colorless, very soluble in water, particularly so in alcohol and in ether, and it is alkaline in reaction. The tobacco of Virginia is the richest in nicotine; the alkaloid is a most deadly poison to the human system. A dose of from 1 to 3 milligrams of the alkaloid produces at first a bitter taste in the mouth, which is followed by profuse salivation and a feeling of warmth in the stomach, the extremities, and the body. Then follow headache, vertigo, somnolence, visual and auditory disturbances and accelerated respiration. About three-quarters of an hour after the ingestion of the poison, marked feebleness sets in; the face becomes pale, the body temperature lowered, and collapse takes place; there may be convulsive manifestations; these symptoms generally last about three hours, but the general effects linger during a period of some days. In general terms, the effects of nicotine on the system, as well as on the brain and spinal cord, are excitant at first, then depressant and finally paralyzing.

3. THE ANTIDOTES OF NICOTINE.—Strychnine is generally recognized as an antidote to nicotine, but experiments show that the antagonism between the two drugs is nil, if the nicotine is injected first; when the two substances are injected simultaneously, the convulsant effect is almost triple that obtained from the individual drugs.

Eserine is another antidote. A non-toxic dose of eserine neutralizes a toxic dose of nicotine; but when toxic doses of both drugs are administered the paralyzing effect of both are combined and prove fatal.

A third nicotine antidote to be used in the psychoses considered is *nasturtium officinale*; the author uses its juices obtained by cold filtering; caffeine should be combined with this antidote. (*Progres Medical*, Feb. 8, 1902.)

A THEORY OF HALLUCINATIONS. — PROF. E. TANZI makes a review of the psychological function of the brain in relation to anatomical data, bringing out the fact that the psychic centres, corresponding to the physiological ones, must, of necessity, be unilateral. The theory regarding hallucinations is thus summarized:—

A hallucination is not a spasmodic representation, but, on the contrary, it differs from a representation in quality as well as in topography. Hallucinations are not the results of exaggerated representations, as has been suggested by some; for, one may have visual hallucinations while the eyes are shut, and hallucinations in general during sleep.

The origin of all genuine hallucinations is transcortical; and hallucinations of peripheral origin, so long as they are not complemented by a suprasensory coefficient, have nothing in common with the former, are not genuine hallucinations, and cannot be considered as belonging to psychopathological phenomena.

The mechanism of hallucinations consists of a regression of images, more or less complex, or conscious, which, instead of reaching the psychic zone, return to the sensory centre from which they have come, taking on again a sensory form, to such a degree that they are taken for reality.

This mechanism is brought into play in pathological or abnormal conditions; the paths serving for the abnormal transmission between the psychic and sensory zones serve other more or less definite purposes during normal conditions.

Admitting that the centres of representation and sensation are individually distinct, it is easy to conceive of a hallucination being

subjectively identical with a sensation, occupying an identical cortical region and being perceived in both hemispheres; but it would be incorrect reasoning to suppose that two stimuli are necessary to act simultaneously on both hemispheres, for in that case isolated visual stimuli should produce unilateral representation, consequently hemianopsia.

There is much similarity between this theory and that of Tamburini: both sensory and hallucinatory phenomena have an identical cerebral seat, if not origin; hallucinations and sensations reside in the same cortical centre; hallucinations are distinctly different in nature from representations; hallucinations are nothing else than the result of an aberration of association, due to regression; they are most dissimilar to representations. (*Rivista di Pat. Nerv. e Ment.*, Dec., 1901).

CLINICAL AND ANATOMO-PATHOLOGICAL STUDIES OF IDIOCY.—G. B. PELLIZZI: The various forms of idiocy may be divided into two large classes, to each of which corresponds a special patogenetic, anatomical and clinical basis. To the first class belong cases with anatomical defects of cerebral development as well as with histological anomalies of the cerebral structure. From this group are excluded cases with defects of inflammatory nature, either anatomical or histological. The histological defects that exist here relate to the anomalies of form, disposition, grouping and seats of the various nervous elements of the cerebral cortex. As a clinical basis for these cases are found: grave neuro-psychopathic heredity (especially alcoholism, epilepsy and defective mentality); the subjects themselves present numerous physical stigmata of degeneracy, special psychopathias and essential epilepsy. The second class presents encephalic pathological processes in the strictest sense of the word, the cerebral membranes being included. Here are found absolute signs of inflammatory processes, intra- or extra uterine, involving the tissues. Clinically, neuro- or psychopathic heredity is not the rule; subjectively, degenerative anomalies are either few or absent; symptomatic epilepsy is a frequent accompaniment here. In the first class, those suffering from cortical hypertrophic disseminated sclerosis are subject to true and essential epilepsy; but the disease is an accompaniment of the existing idiocy; there is no idiocy determined by epileptic attacks. In cases of hypertrophic sclerosis the cerebral tissues are strangled and idiocy is the necessary result. In the history of such cases are generally found hereditary alcoholism and epilepsy as well as other mental defects. (*Annali di Fren.*, Dec., 1901.)

THREE CASES OF ACUTE CEREBRO-SPINAL MENINGITIS. —DR. S. MICHELSON publishes three cases of cerebro-spinal meningitis, two of which died, and the results of the autopsy confirmed the diagnosis. The salient features among the symptoms were severe headache that made the patients scream with pain, vomiting, scaphoid abdomen, anæsthesia of the nape, pain in the spine, severe delirium, spasms of the facial and other groups of muscles, Kernig's symptom and paralyses of the oculo-motor (dilation of the pupils, converging strabismus) and facial nerves; the reflexes were diminished. The spleen was increased in size; herpes was absent in these cases; in two of the cases the joints were affected; the urine was free from sugar and albumen; the temperature presented no characteristic traits. At the autopsy were found various stages of inflammation of the meninges, from simple infiltration to purulent processes. The author is disposed to think that the cases were of an epidemic nature. (*Roussky Medizinsky Vestnik*, Feb., 1902.)

MYXŒDEMA TREATED WITH THYROID GLANDS DURING A PERIOD OF FIVE YEARS.—M. HERTOGE began to treat the patient when she was eight years old, when she presented distinct myxœdematous symptoms. At present, five years since the beginning of the treatment, the patient seems entirely free from signs of the disease. (*Annales de Medicine et Chirurgie Infantile*, Jan. 1, 1902.)

HYSTERICAL CUTANEOUS GANGRENE. — DR. CHARMEIL has treated a case of disseminated gangrene of the skin due to hysteria. There have been only about thirty similar cases published. The author has had another case which presented, besides the gangrenous lesions of the skin, lesions of the buccal and intestinal membranes. Simulation must be excluded in such cases; the question here is that of arterioneurosis, and suggestion is the only useful treatment. (*L'Echo Medical*, Jan. 12, 1902.)

HYDROCEPHALUS, AN UNUSUAL CASE. —DR. RAMOND GARCIN publishes this case. The child was colored, about five months old. The unusual measurements of the head that was hydrocephalic were as follows: Circumference, 27 inches; vault of cranium from ear to ear, 16½ inches; from before backward, 16½ inches; circumference of back of head, 22½ inches; size of neck, 7 inches; wrists, 3 inches. (*American Medicine*, March 8, 1902.)

INSANE CONVICTS. — Of the 52 convicts serving life sentences in the Connecticut State Prison more than 17 per cent. have been pronounced insane. (*American Med.*, Feb. 22, 1902.)

A CASE OF OTITIC BRAIN ABSCESS, AND THE LESSON WHICH IT OBVIOUSLY TEACHES.—DR. ROBERT LEWIS, JR., publishes the case of a woman, 23 years of age, who had purulent discharge from the ear since her childhood. The main symptoms that characterized the disease were fever, chills, headache, rigidity of the limbs and amnesic aphasia; an abscess of the left ear and the third and ascending frontal convolutions were found and evacuated; there was also hyperæmia of the dura that covered the temporo-sphenoidal lobe.

A feature of the aphasia was that the patient felt much annoyed at not being able to use the right words while answering questions, "fan" being a word she substituted for many other words. The patient made a perfect recovery, and the author points out the lesson that similar cases should be treated surgically at an early date. (*Medical Record*, March 15, 1902.)

CEREBRO-SPINAL MENINGITIS. — M. DUCARE publishes a case of acute sporadic cerebro-spinal meningitis, which set in, as is usual in such cases, suddenly, the characteristic symptoms having been exquisite cephalalgia, Kernig's sign and high fever. The disease spontaneously terminated favorably after a course of three weeks. (*La Loire Medicale*, Feb. 15, 1902.)

MELANCHOLIA AND THE TOXÆMIC THEORY; A CLINICAL SKETCH. — DR. T. C. CLOUSTON demonstrates by clinical cases that while toxæmia may be a vulnerable factor in the causation of an onset of insanity, it must be borne in mind that insane or nervous heredity generally underlies the disturbance. (*The Scottish Med. and Surgical Jour.*, February, 1902.)

LIQUOR REFORM IN RUSSIA. — The attempt of the Russian Government to abate the drinking habit of its nation, by bringing the liquor trade under state control and by obliging the buyers of liquor to carry the drink home, has ended in a financial success, but not in a social one, Mr. Mennan says. *Sputnik Zdorovia* says that the moral elevation of the nation cannot be expected before the physical level, in all its relations, is raised. (*Medic. Rec.*, March 1, 1902.)

SUICIDE IN THE UNITED STATES. — Suicide is on the increase. The total number for the year 1901 was 7,245 as compared with 6,755 in 1900, and 5,340 in 1899. Of this total 5,850 were males, and 1,395 females, showing the same proportion of about 5 males to 1 female for several years past. Physicians head the list among professional men, the record standing: Physicians, 33;

attorneys, 10; clergymen, 10; bankers, 6; journalists, 6, and college professors, 1. (*Med. Record*, March 1, 1902.)

AN EPIDEMIC OF LAUGHTER. — Three cases of remarkable laughter, in regard to its onset as well as duration, are reported to have occurred in Wellington, Ill. The first case was that of a girl, 15 years of age, who laughed four days in succession. The spell was cut short by the effect of a glass of cold water being thrown into the girl's face by her father. The second case was that of a girl, 15 years of age, and the third, that of a young man. In these two cases the victims stopped laughing, probably from sheer exhaustion, after a week's duration of the disease. (*St. Louis Med. Review*, Feb., 1902.)

RENAL PERMEABILITY OF EPILEPTICS TO METHYL BLUE.—DR. SOTGIA is of opinion that the results of experiments on renal permeability in the epileptics may become useful only as comparative qualities; he has found that traces of methyl blue injected before or during an epileptic attack can be detected from one-half to three-quarters of an hour after the injection is made, the last traces disappearing from 56 to 72 hours after the injection; but these results should be compared with others, obtained on healthy subjects, as well as on epileptics in various stages of the disease. (*Annali di Fren.*, Dec., 1901).

THE SEXUAL SELECTION AND THE PROGRESS OF ESTHETICS.—DR. MAROTTA concludes from a review of the entire zoological scale that the feminine individual is always the inferior subject in development. In human ranks, as in others, her forte lies in her beauty. The latter is the higher as it is the more suggestive of sexuality. The Venus of Milo is a distorted conception of feminine beauty because her form is inconceivable in connection with maternity. (*Annali di Fren.*, Dec., 1901).

CONGENITAL MALFORMATION OF BOTH UPPER LIMBS TRANSMITTED FROM MOTHER TO CHILD.—M. JABOULAY published the case in the *Province Med. de Lyon*, stating that the mother, who had only four fingers on the right hand and an absence of the thumb and radius of the left limb, gave birth to a child with precisely similar defects. (*Gaz. des Hop. de Toul.*, Jan. 11, 1902).

INSOLATION AND PSYCHOSIS. —DR. REGIS is of the opinion that insolation acts on the nervous system in a manner similar to that produced by the poisons of auto-infections. Dr. Hyslop's study of the subject is the most complete at present. A case

of insolation of a young soldier is reported, which is interesting because of the persistent retrograde as well as anterograde amnesia during a period of eleven months after the onset of the disease. While the patient forgot what had been told him a minute before, he memorized thirty-two lines of verse that were given to him as a test, and he could recite the lines without mistakes some weeks later, without having looked them over during that time. Dr. Regis suggested the trial of hypnotism in this case. (*Le Caducee*, Nov. 6, 1901.)

THE BRITISH CHILD STUDY ASSOCIATION. — This association has been established, having ten branches in various towns in the Kingdom. The object of the association is the study of the life and advancement of children. Formal lectures on these studies are given, and local and general meetings are held to advance the study of the question. *The Paedologist* is the official publication of this association. (*American Medicine*, March 22, 1902.)

OVERCROWDING IN HOSPITALS FOR THE INSANE. — In the recent report of the New York State Charities Aid Association data are given as follows: On October 1, 1901, the total number of insane persons in public and private asylums was 24,354, an increase of 576 over the number of the previous year. In the state hospitals alone, the increase over the year 1900 was 566. At the present rate of annual increase, there will be, within the next four years, an increase of 3,100 patients, for whom there are at present no accommodations in the state hospitals. (*American Medicine*, March 1, 1902.)

VIENNA PSYCHIATRIC AND NEUROLOGICAL SOCIETY.

1. ON THE TOPOGRAPHICAL SIGNIFICANCE OF ECHALALIA. — DR. A. PICK gave it as his opinion that in cases of echolalia there must exist some impairment of the left temporal lobe as well as defective inhibition.

2. TUBERCULOSIS AND ASYLUM TREATMENT. — DR. J. STARLINGER said that the growing dangers of the spread of tuberculosis in asylums for the insane made it obvious that special wards for the treatment of tuberculous insane should be constructed, after the models of those built for simple cases of the same disease.

3. TO THE ETIOLOGY OF PERIODIC PSYCHOSES.—DR. CLEMENS NEISSER read a paper on this subject. Dr. PILCZ pointed out that cerebral affections, especially cerebral scars were etiological factors in the production of periodic psychoses. In 4 out of 17 cerebral cases, periodic insanity was the immediate sequence of cerebral apoplexy.

4. THE INFLUENCE OF FOOD ON THE COURSE OF EPILEPSY.—DR H. SCHLOESS read a paper on this subject. There is a divergence of opinions regarding the effect of food on the course of epilepsy. Some claim that an exclusive meat diet tends to increase the number of attacks, while others say that an exclusive milk and vegetable diet cannot be said to materially decrease the number of fits. The latter are decreased in number by reducing the amount of table salt in the diet, according to the method of Drs. Toulouse and Richet, bromide being administered at the same time. Foods rich in acid and fat increase the number of fits; moderate use of alcoholic stimulants does not seem to have any evil effects, the author claims. (*Wiener Klinische Rundschau*, Jan. 19, 1902.)

PRINCE AND PHYSICIAN.—Since Peter the Great, who practiced the art of extracting teeth, there have been only two princes with the title of M. D., both princes being of the house of Wittelsbach; they are the Duke Karl Theodor and the Prince Ludwig Ferdinand. One of them is an oculist; both have established hospitals for charitable purposes on their lands in the Tyrol, and they give their personal attention to the work. (*Progres Medical*, Feb. 15, 1902).

PSYCHIATRY IN GOETHE'S WORKS.—DR. MOEBIUS furnishes some more studies on the life of geniuses. The psychiatric features in Goethe's works are not built haphazard, but were rather the results of patient scientific study in the field of medicine. The names of physicians and clinics are given with whom and where the poet studied gynæcology, obstetrics, medicine and other branches of science. He had a horror of insane asylums, but he had ample opportunities for the study of psychiatry among those with whom he came in contact. *Werther*, for instance, was built on the observations of a family pupil who had become demented; the poet's father died of senile dementia; the poet said: "The world is so replete with feeble minded and insane that it is not necessary to search for them in the asylums." (*Progres Medical*, Feb. 15, 1902).

SOME FACTS RELATING TO THE ILLNESS AND DEATH OF HEINE.—M. BAUDOIN, quoting from the memoirs of the poet's friend, who is a physician, Mme. la Comtesse F. von Gelden-Egmond, states that Heine's father was a merchant and the mother was a distinguished woman. He became the victim of locomotor ataxia, which eventually carried him to his grave, in 1856. He suffered from ptosis of the right and left eye-lids, which caused him much suffering during waking hours, when he had to "lift the lids with his fingers" in order to be able to use his eyes; between

the years 1837 and the date of his death, in 1856, he suffered numerous physical sufferings, between painful migraine, sciatica, an exhausting cough, insomnia and a paralysis that confined him to bed during a period of ten years.

Alphonse Daudet also died of locomotor ataxia. (*Gaz. Medicale de Paris*, Feb. 15, 1902).

THE DEPOPULATION OF FRANCE.—In opening a meeting at which the question of the depopulation of France was considered, M. WALDECK-ROUSSEAU said, in part, that the large infantile mortality was the gravest cause of depopulation; the small number of births should also be considered and measures be taken for remedying the evil. During the discussion that followed it was proposed to appoint several sub-committees, assigning them certain lines of work to further the question, but only two sub-committees were appointed—one to study the birth rate and the other the death rate. (*Gazette Medicale de Paris*, Feb. 15, 1902).

DEPOPULATION IN BERLIN.—The census for 1901 shows a progressively decreasing birth rate, beginning with the year 1876. The figure is lower now than it was in 1814, when there was an obvious reason for the decrease. (*Gazette Med. de Paris*, Feb. 15, 1902).

BOOK REVIEWS.

CLINICAL LECTURES ON THE DISEASES OF THE NERVOUS SYSTEM. Delivered at the Salpetriere Hospital, by Prof. F. RAYMOND, Professor at the Faculty of Medecine of Paris, Member of the Academy of Medecine. Five volumes, in octavo, 70 francs.

The volumes contain the lectures delivered during the official course of instruction on diseases of the nervous system, at the Salpêtrière Hospital, Paris, inaugurated in 1882, by Charot, and continued, since 1894, by Professor F. Raymond; they comprise two distinct series:

One deals with the presentation of the most interesting subjects chosen among the out-door patients, who come for public consultations; the examination is made before the auditors, and the lectures are extemporaneous.

The second series consists of *didactic* lectures. While maintaining himself within the clinical domain, the lecturer takes advantage of the occasion offered him by the pathological cases before him, to give his auditors exact notions on the etiology, symptomatology, pathology, prognosis and treatment of the disease in question. He contrasts the realities with which one is confronted with the somewhat schematic conceptions of pathology, using, to this end, not only his own personal experience, but all that, in the publications and experience of others, may throw light on the subject in question.

Such a method of teaching, necessitating as it does much laborious preparation and much study, may claim to leave some lasting trace, and to extend beyond the narrow limits of a hospital amphitheatre. Professor Raymond has therefore considered it a duty to publish regularly the didactic lectures which he has delivered at the Salpêtrière Hospital since he succeeded to the Clinical Chair of Diseases of the Nervous System at the Faculty of Medicine of Paris. This publication consists of five large volumes; the last appeared a few weeks ago.

These volumes constitute an entirely homogeneous work. They comprise the most varied subjects; we need only mention the questions which form the subject-matter of some of the principal lessons:

Isolated paralysis of the peripheral nerves; radicular paralysis; polyneuritis (the study of this question, under its most varied aspects, takes up twenty lessons); *alternate paralysis* (about ten lessons).

AFFECTIONS of the CAUDA EQUINA and the CONUS TERMINALIS (the new ideas contained in these lessons have become classical); *Compression of the spinal Chord*, by tumors, or as in Pott's disease; *sub occipital Pott's disease*; PROGRESSIVE AND CHRONIC ANKYLOSING DISEASE (a subject little known in literature); *traumatic hemisection of the spinal chord; syphilitic myelitis*.

Many lessons have been devoted to the study of the relations of ACUTE ASCENDING PARALYSIS OF ANTERIOR POLIOMYELITIS and of POLYNEURITIS; to the study of *Progressive Muscular Atrophy*, of *Friedreich's disease*, of TABES DORSALIS (and especially of the treatment of the latter by re-education of the muscles), of SYRINGOMYELIA, of DIFFUSE SCLEROSIS (especially considered in its latent forms), of the sensory disorders observed in the last three affections; to the study of *Little's disease*, of *Thomsen's disease*, of *Lateral Amyotrophic sclerosis*, and of *Bulbar Paralysis*, of PSEUDOBULBAR PARALYSIS, of *Ophthalmoplegia* in its relation to Locomotor Ataxia, of circumscribed LESIONS of the REGION of the CORPORA QUADRIGEMINA, of very curious cases of HEREDITARY ATROPHY OF THE PAPILLA, of cases of *juvenile General Paralysis*; to the study of *diffuse tubercular meningitis*, of *Sclerodermia*, of *infantile myxoedema* and its treatment by thyroid medication.

PARTIAL EPILEPSY on one hand, and CEREBRAL TUMORS on the other have formed the subject matter of a number of systematic lectures, in which one will find exposed, in *clear and concise terms*, all that is known of the *topographical diagnosis and treatment* of the lesions referred to. Incidentally, the author sets forth the actual states of the doctrine of CEREBRAL LOCALIZATIONS, and has

gone into the details of the *topography of the cortical centres of sensibility*.

HYSTERIA has been studied generally in its relations to the different affections of the nervous system, and especially in a number of its most interesting manifestations; *systematic contracture*; *hystero-traumatism*; *verbal deafness*; *myoclonia*, etc.

Other lessons, for instance those on *heredity in nervous pathology*, those on *ambulatory delirium*, show us how clinical study can elucidate questions which have hitherto belonged to the domain of medical philosophy and psychology.

Finally, the historical evolution of neuropathology has been exposed in a pleasing manner in the first lectures contained in the first volume, under the following titles: *THE WORK OF A MAN* (Charcot); *THE WORK OF AN EPOCH*.

The text of these five volumes, written in a clear and easy style, an exact counterpart of the author's oral teaching, has been illustrated by hundreds of figures and numerous colored plates.

Professor Raymond's work will not only interest specialists; it must be studied by the general practitioners and surgeons who are desirous of keeping abreast of the times in this all important section of pathology.

The five volumes, by subscription, 70 francs, post free.

Price of each separate volume: Volume I, 10 francs; volume II, 18 francs; volume III, 20 francs; volume IV, 15 francs; volume V, 16 francs.

Octave Doin, Publisher, 8 Place de l'Odéon, Paris.

N. VASCHIDE and CL. VURPAS. PSYCHOLOGIE DU DELIRE DANS LES TROUBLES PSYCHOPATHIQUES.

Masson et Co., Paris. Price 2 fr. 50. The names of the two authors of this volume are quite familiar to the psychologist as well as to the psychiatrist. The thoroughness and originality of their scientific contributions have placed these authors on a high scientific level, and this volume bears the general characteristics of their other works—unhampered search for the explanation of the psychology of delirium. A thorough exposé is made of the conceptions of what constitutes delirium, as expressed by leading authors in their classic works, and the conclusions drawn from that exposé are made the bases of elucidation of the question of what constitutes the psychology of delirium. It is concluded that the various psychic processes are similar in the normal and the morbid states; they differ in degree and quantity, however, this difference alone marking the borderland between the cerebration of the sound and the unsound mind. The volume has 190 pages.

BOOKS AND PAMPHLETS RECEIVED.

VORLESUNGEN UEBER DIE PATHOLOGISCHE ANATOMIE DES RUECKENMARKS. Unter Mitwirkung von Dr. Siegfried Sacki, Nervenarzt in Muenchen. Herausgegeben von Dr. Hans Schmaus, A. O. Professor U. I. Assistant am Patholog. Institute in Muenchen. Mit 187 Teilweise Farbigen Textabbildungen. Verlag von J. F. Bergmann. *Wiesbaden*, 1901.

RECHERCHES CLINIQUES ET THERAPEUTIQUES SUR L'EPILEPSIE, L'HYSTERIE ET L'IDIOTIE. Compte-rendu du service des enfants idiots, epileptiques et arrieres de Bicetre pendant l'annee 1900. Par Bourneville, avec la collaboration de MM. Crouzon, Dionis du Séjour, Izard, Laurens, Paul-Boncour, Phillippe et Oberthur. Vol. XXI, avec 19 figures dans le texte et XI planches. Progres Medical, 14, rue des Carmes, and Felix Alcan, 108, Bd. St. Germain, Paris, 1901.

DIE KOERPERLICHEN ERSCHEINUNGEN DES DELIRIUM TREMENS. Klinische Studien von Dr. August Doellken, I. Assistentarzt der Psychiatrischen und Nervenlinik. Mit Zahlreichen Figuren. Verlag von Veit und Co., 1901, Leipzig.

LA MIGRAINE ET SON TRAITEMENT. Prof, Paul Kovalevsky, M. D., Membre hon. de la Societe de Medecine Mentale de Belgique, de Niederlande, Corresponding Member of the New-York Academy of Anthropology, Membre de la Societe Medico-Psychologique de Paris, de Londres, d'Italie, etc., etc. Vigot Freres, 1902, 23 Place de l'Ecole de Medecine, Paris. Tout droits reserves.

MONOGRAPHIC CLINIQUES NO. 29., PUBLIE LE 5 FEBRIER, 1902. Les ponctions Rachidiennes Accidentelles et les Complications des Plaies du Rachis par Armes Blanches sans Lesions de la Moelle. Par le Dr. E. Mathieu, Medecin Inspecteur de l'Armee, Ancien Directeur et Professeur du Val-de-Grace. Masson et Co., Paris, 120, Bd. St. Germain, Paris.

SURPA UN CASO DI EPILESSIA TARDIVA IN UN ALIENATO, pel Dott. Giuseppe Muggia.

REMARKS ON THE CZOLGOSZ CASE AND ALLIED QUESTIONS, AS PRESENTED BY DR. TALBOT. By E. C. Spitzka, M. D., New York.

REPORT OF THE COMMISSIONER OF EDUCATION, U. S. A., 1899-1900, Vol. 2.

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A STUDY OF THE EMOTIONS.

BY DR. A. MARRO, Prof. University of Turin, Italy.

The satisfaction of our desires and the failure to satisfy them is expressed psychically by conditions of joy or distress, respectively. Lange gives the following schema expressive of the psychic versus the physical manifestations: (1)

CONTRARINESS—slackened voluntary innervation.

DEPRESSION—slackened voluntary innervation plus vascular constriction.

FRIGHT—both the foregoing plus spasm of the organic muscles.

IMPATIENCE—heightened voluntary innervation plus spasm of the organic muscles.

JOY—heightened voluntary innervation plus vascular dilation.

ANGER—heightened voluntary innervation plus vascular dilation, plus disordered muscular movements.

From the facts here stated it can be judged that moral pain can be followed by fatal consequences when the accompanying physical manifestations are of an exaggerated nature. Fright and despair, for instance, are two psychic conditions in which the corresponding physical reactions vary to a marked degree, and may become quite harmful in a condition of prolonged despair. In fright, there is always a tendency to reaction by the act of self defence; but in despair reaction from the physical derangement is rather delayed by reason of the condition of resignation that may take place. It is obvious that the condition of stupor is accompanied by a still more marked tendency toward a continuance of whatever physical derangement may exist as a consequence.

Clinically, these facts have their importance. Thus, melancholia with agitation presents far more hope for a speedy or slow recovery than does the form of this disease characterized by stupor.

Of eighteen melancholiacs with agitation admitted to my wards, one was cured within the course of a month, three were cured within the lapse of two months, six within five months, and two give every hope for their recovery within the near future. The aspect of hopeful recovery is quite different in the stuporous melancholiac. Of fourteen such cases admitted to my wards, the

speediest recovery took place within the course of five months in one case and in six months in another, and all the remaining cases are still under treatment.

The clinician should delve a bit more carefully into the laws of reaction if he wishes to understand his cases more clearly. It may be accepted as a general rule that moral pain is an indication of the want of psychic reaction, of the existence of organic reaction alone, which results in certain physical and chemical actions. The first effect of fright is that of constricting the peripheral vascular system, and the first sensory impression during fright is that of cold; the vascular constriction may extend not only to the arteries but also to the veins; cardiac paralysis sometimes takes place under such conditions.

The lowered temperature is not only a subjective phenomenon but may be reproduced experimentally. I have obtained a lowering of temperature of four degrees C. in a rabbit, after it has been subjected to a mechanical rotary centrifugal movement on a wheel. Another rabbit showed a lowering of temperature of from 0.02 to 0.2 degrees from the effect of fright when its paw was dipped in water of a temperature of 60 degrees. In addition to the lowering of the temperature, consequent on the changes of the irrigation of the blood, urinary changes also take place after an emotion of fear. The urine of insane patients with terrifying hallucinations contains a marked quantity of acetone (2). Experimentally, I have also succeeded in finding an exaggerated acetonuria in an eagle (?) which struggled in its cage for some hours. A similar urinary change could be observed in rabbits which had been subjected to rotary movements on a wheel; I have also found an increased acetonuria in a dog subjected to fretting: the animal was placed on the cornice of a window, on the second story, and left there for a period of some hours; when released, the dog trembled and refused to eat meat that was offered to it; several hours passed before the animal resumed its normal behavior. The increased acetonuria was expressed by some 0.0124 grams per 100 cc. above the normal.

Bichat reports a case of a woman who was affected by the sight of her husband engaged in a perilous sword fight; she nursed her two-months old baby soon after this emotion; the child, who was in perfect health before sucking the mother's milk, began to tremble and died a few minutes after. There are cases on record which show that maternal impressions of a frightening nature during the early part of pregnancy caused the birth of monsters.

It may be said that many psychoses and neuroses make their appearance after some fright in those predisposed to the maladies.

This fact must not be overlooked in clinical work, where we should closely account for every determining or exciting cause, whether of psychic or bio-chemical nature. I have a case on record illustrative of the effect of fright on the predisposed. A young man was threatened angrily by his employer; when the menace was resumed, the youth ran out into the street and started homeward at a fast pace, gesticulating in a strange manner. On beholding his family, he became still more frightened and attempted to run out of the house. He was taken to the asylum in a condition of marked excitement and remained under that spell during a period of four months (3). I firmly believe that the preachers who are lavish in vivid descriptions of the horrors of "perdition" and of the cruel sufferings that await "sinners" are responsible for many cases of insanity which would have remained in abeyance had it not been for the exciting influences of these phillipics. I have known cases, not only of epilepsy, but also of general paralysis that set in subsequently to fright. In one such case of a young lady, with no morbid hereditary taint, four individuals presented themselves to her, dressed in white surplices; the wierd sight of the figures robed in white frightened her into unconsciousness. Choreic movements set in when she regained consciousness and these were followed by symptoms of paralytic insanity, which soon caused her death. Another girl was frightened by an individual who introduced himself into her room and attempted to abuse her. She developed choreic movements after this incident and a mental disturbance with febrile movements set in and caused her death. The earthquake of 1887 was followed by many fatal cases of insanity of both sexes. In my private practice I have known many cases of insanity to follow the fright of being bitten by a dog, whether the animal was or was not rabid. In such cases, the patient is generally under the influence of the fear that the dog was rabid and the delirium pivots about that emotional thought. One convalescent melancholiac, whose disease was brought on by the fright of having been bitten by a dog, had a sudden relapse of his psychic ailment from having noticed a dog while looking out of the window of the ward.

As is well known, the organic disturbances found in melancholia are mostly hepatic dilation, abdominal vascular plethora, and a lowered temperature with a cold skin livid in color. The languor and abulia of the melancholiac are due, partly, to the vascular disturbance.

According to Mantegazza, the emotion caused by pain is accompanied by a lowering of the temperature. As for the bio-chemical changes found in the melancholiac, I reported the results of my

researches on that subject some years ago (4). I demonstrated that the phosphoric acid combined with the alkaline metals and that the sodium and potassium salts were diminished, while the combinations of the earthy alkaline salts, calcium and magnesium, were increased, that the sulphuric acid is likewise diminished in the urine, and that the fatty acids, acetic and formic, are constantly present.

The immediate effects of the more intense forms of pain may sometimes prove fatal. Mantegazza reports a case of a mother who, stricken with grief at the death of her only daughter, refused to leave the room of the dead, keeping close to the corpse. When she heard the noise of the approaching undertakers, who were to remove the body, she fell to the ground and expired (5).

It is related that during the combat against the Turks, during the siege of Buda, Raisciac di Svezia and others, who watched a heated engagement and its termination, ran up to the wounded to extend assistance. As he approached the sufferers, Raisciac noticed the upturned face of his son's body. The father fell dead without uttering a word (6).

Fright of a marked degree may give results similar to those brought about by pain. The students of an Italian convent planned and executed an elaborate hazing scheme on one of the supervisors, who was unpopular because of his pedantic enforcement of the rules of the institution: the man was taken into a chamber, which, he was told, was a tribunal; judges sentenced him to death and proceeded to execute decapitation, which was the mode of death decided on in his presence. At first the subject took the matter as a joke, but when one of the disguised students sprinkled cold water on his neck, the unfortunate supervisor fell dead, the impression conveyed to him being that he was being struck with a sharp hatchet.

Delpesch reports that before chloroforming a patient who was to have an incision on the neck, he traced the direction of the proposed incision on the patient's skin with the blunt edge of the instrument. On feeling the contact of the steel the patient fainted and died (7).

The consequences resulting from physical and moral pain are brought about in a similar manner anatomically. In the case of one patient, who died from the effects of a blow on the abdomen, it was found, on the autopsy, that the heart was empty, while the liver, spleen, kidneys and abdominal vessels were engorged.

Golzche's experiment in this respect is classical; a frog's heart is exposed to view and the abdomen is hit with a hammer; the

heart is seen to empty itself and stop beating, while the abdominal organs become filled with blood.

I have already mentioned that in the melancholic conditions the abdominal viscera are almost always engorged.

Moral pain under its various forms is a potent factor in the etiology of mental diseases, especially in women. The expansive emotions, on the contrary, favor a salubrious condition of all the vital functions; but when taking place to an exaggerated degree they may provoke dangerous consequences. I recall a striking example of this kind as illustrated by such emotions in a dog. My father's dog, which was unusually attached to him, was stolen. The animal was traced to its new quarters, and as my father approached the dog, it seemed overcome with joy at seeing its master; it sprang to his shoulder and then fell to the ground as if dead; several minutes elapsed before the dog regained consciousness.

Psychically, an expansive emotion may sometimes cause the manifestation of an insane act. The story of Archimedes is well known: when he made the discovery that made him cry out "*Eureka*" he ran out into the street naked.

The exhilarating effect of music is well known to the soldier, and many a battle has been won through the subtle encouragement derived from martial strains in time of dire dejection.

The emotion of wrath is important from a sociological standpoint: one might say that this form of emotion enters into every criminal act. The greater passions, ire, vendetta, jealousy, and furor are derivative emotions of wrath. Anatomically, the traces of such habitual emotions are seen in the presence of arteriosclerosis; the epileptic and apoplectic are the most frequent bearers of these forms of emotion. Traces of the bio-chemical emotions can generally be found in the urine after the end of the psychic spell. Niemeyer reports a case of a diabetic who was apparently free from the usual disturbance of his disease. He was angered by some slight incident and suddenly became furious. The urinary analysis, of a specimen, taken after the spell was over showed that a recurrence of the disease had taken place. The period of puberty is noted for showing frequent occurrences of spells of anger. The phenomenon is possibly due here, to the new biochemical action connected with the spermatic secretion.

I have had occasion to speak of the occurrence of frequent spells of anger during the period of puberty in connection with criminality. The criminal subjects seem to lack the power of self-control, particularly during the period of puberty, when their viciousness reaches its maximum height. I have had occasion to

observe a young criminal subject who became angry at a remark made to him, and, frenzied, threw himself from a window on the second floor of the prison. When picked up, his skull was found to have been fractured. Every psychiatrist is familiar with the explosive passions of the criminal: they shriek, assault, tear their clothes, break the furniture and commit other acts of violence on the slightest provocation.

The conditions of frenzy in the maniac and alcoholic are matters of great interest and should receive closer attention; it will pay to study them.

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ON THE QUESTION OF DEMENTIA PRÆCOX.

BY DR. VLADIMIR SERBSKI, Privat-Docent, University Moscow.

I.—The most valuable additions, within the last ten years, to the knowledge of mental forms, are those relating to the differentiation between *paranoia* and *amentia*. To-day, considerable time is given to the consideration of another form,—mental enfeeblement,—particularly the variety which has no definite gross anatomical basis. This question is intimately connected with Kraepelin's views on it, and many contest the logic of the acceptance of that form as he describes it; Morel (1) was the first to term the disease *démence précoce*. Before accepting Kraepelin's views, it is well to consider all terminal states of the psychoses which do not result in a complete recovery: under such consideration, Kraepelin's form,—dementia præcox, becomes a matter of debate, as we have been accustomed to apply the term *dementia secundaria seu consecutiva* to that form of disease which installed itself as a terminal end after the course of some psychic disturbance. This point of view was not taken into consideration at the Paris International Congress, although distinguished men, such as Ziehen, Marro, Voisin and others, were there to discuss the psychoses of puberty. The views advanced in this discussion were limited to the well known conception that varied psychic disturbances may take place during that period of life; the enumerated abundance of these forms, however, swallowed up the theme of dementia præcox. An important feature during these discussions was that neither the readers of papers nor the discussers seemed to be inclined to compare their views on this form of disease with that of the Heidelberg professor. Yet, to Kraepelin belongs the merit of having familiarized us with *dementia præcox*, although we look on it in a different light from that in which he has presented it to us. Exaggerations of facts, analogous to that seen in Kraepelin's definition of the disease here considered, plays an important part in the history of our knowledge: our attention is thereby attracted and the matter is subsequently relegated to the place where it properly belongs.

When attempting to reduce the somewhat wide limits of primary dementia, the first point that forces itself on our attention is

that regarding the advisability of retaining in our classification the group of *dementia secundaria*. The latter presents, no doubt, a somewhat artificially chosen group, which embraces unfavorable terminations of a great variety of psychic disturbances. A point in favor of the retention of this group of forms may be the one, as some would have it, that every termination of a given disease is inherent to that very disease and can even be predicted; that the fundamental origin of diseases which end in terminal dementia differs from that of diseases which end in recovery. Consequently, the diseases which lead to psychic disintegration should be strictly separated from those which do not lead to such an end. From this point of view, however, secondary dementia, as a terminal condition of *various pathological processes*, does not exist; at the root of those cases, which we say end in terminal dementia, there exists a process *sui generis*, which fatally leads to dementia (verbloedingsproces), and for this reason they should be grouped by themselves.

I consider the above reasoning quite erroneous, because one and the same disease may lead to various and different terminations. If, indeed, the end of a given disease were prearranged by fate, it would be useless for us to devote our time to treating such diseases. Whereas, we know from experience that surroundings, circumstances and individual resisting power play an important part in the termination of these diseases. Finally, the intensity of the disease itself also plays an important role, which can in no wise be predicted. The combination of all these conditions limits our predictions of the end, making it quite indefinite and approximate.

If, therefore, one and the same disease may lead to various terminations, it is evident that the grouping of diseases according to their terminations, and the use of the latter as a fundamental index for classification, is absolutely untenable. No one, for instance, would base the diagnosis of cerebral hemorrhage on the possible eventuality of a permanent hemiplegia; nor would we make the diagnosis of a urethritis dependent on a subsequent stricture or albuminuria. In view of these considerations, I consider Kraepelin's method of limiting dementia erroneous. His views on this subject are particularly unacceptable, because the prediction can be based neither on the onset, course, nor the etiology of the disease.

The statement regarding the prognosis of maniac-depressive insanity (2) is equally erroneous. We have all seen cases of mania and melancholia that made us give a favorable prognosis, but which ended in chronicity and even mental impairment.

To repeat what has already been said on this score, we are forced to ask: is there a fundamental difference between the processes during the course of a disease which ends in dementia and the processes of a disease which ends in recovery? We repeat this question only to answer again that we have no basis on which to found a statement. The clinical manifestation seems to be identical in both cases, and we cannot discover any indication in the direction of this or that prediction; but we must not allow the varying terminations to influence us in making ungrounded predictions.

II.—On examination of Kraepelin's *dementia præcox*, one is struck with the absolute impossibility of explaining what constitutes the fundamental trait of this pathological group and what is considered the common element in that chaos of varied clinical manifestations. True, the indicated common trait is the *mental enfeeblement characteristic of itself*; but it is immediately added that this issue is not necessarily invariable, but that it is a frequent form of termination (3). The general characteristics of this disease, as they are given, impress one as being markedly vague in the symptomatology and blurred as a clinical description.

The very qualifying adjectives of the signs of this disease ("generally," "often," "not infrequently," "sometimes," etc.) make us infer that the majority of these attributes are not essential parts of the picture of the disease. The importance that is ascribed to the manner of shaking hands (4) can only be explained on the ground of invalidity or even of absence of more enduring signs. Even signs relating to disturbance of attention and impairment of judgment are said to be not invariable, but conditional. Tschisch and Daraszkievicz (5) count the disturbance of attention among the essential traits of hebephrenia; Kraepelin, however, states that the subjects suffer from that disturbance either not rarely or not at all; that this can be seen from the fact that they exhibit a certain amount of curiosity; that the power of judgment often remains intact when relating to things, the knowledge of which was acquired in early life; not infrequently, the patient is even aware of his being ill. When we learn that Kraepelin classes also chronic delirium (of Magnan) with dementia præcox, it becomes apparent that disturbance of attention and of judgment is not a sign inseparable from the picture of dementia præcox. Thus, in the intellectual sphere of this disease we find no specific guiding signs. We find, according to his indications, as distinctive elements, more or less mental stupor (which is common to many psychic disturbances), which, in its turn, changes volitional activity. The change of volitional activ-

ity, as indicated, is open to criticism, if we try to apply that change to cases of mental disturbance known as delirium of persecution; in this disease neither mental activity nor psycho-motor phenomena show any alterations during a long period of time from the beginning of the course of the disease (if we diverge from Kraepelin in classing among the latter phenomena neologisms).

In his "Introduction to Psychiatry," Kraepelin gives as fundamental signs of dementia præcox mental stupor, disinterestedness in surroundings and activity. So that the conception of dementia præcox is reduced to that of acquired mental enfeeblement, in which the intellectual sphere and volitional activity are impaired.

On bringing together primary and secondary dementia, Kraepelin is again extremely vague in his sketches of the respective diseases. It appears that dementia præcox, as he understands it, does not always end in dementia: the variety termed "hebephrenia" may yield 8 per cent. of recoveries and the catatonic form may even have 13 per cent. of recoveries. One cannot help underscoring the very singular contradiction relating to the above cited facts in connection with a disease, the *fundamental* characteristic of which is dementia; if recoveries take place as above stated, then have we a form of dementia *without* dementia.

One is also astonished to learn from the same source that dementia præcox may develop at any period of life, even at the age of 40, 50 and 55 years.

No matter how we consider this disease, it is characterized by two fundamental distinctive traits: 1,—disintegration of the psychic organization, i. e., irreparable terminal mental enfeeblement, dementia, and, 2, the onset of this dementia during a period, when the psychic organization has not yet reached complete development. Disregard of these limiting traits is quite equivalent to disregard of other characteristic traits,—in senile dementia, for instance, and arbitrary reasoning of that sort might as well lead us on to an assertion that senile dementia is curable and that it may also set in between the ages of 20 and 30 years.

As is known, Kraepelin distinguishes three varieties of dementia præcox: Hebephrenic, catatonic and paranoidal. In the description of the hebephrenic variety, Kraepelin follows Daraszkievicz, enlarging Hecker's characteristic description with "grave forms" of hebephrenia, which end in marked dementia. As regards the catatonic forms, I am pleased that Kraepelin classes them with dementia præcox. Long before he did so, I drew attention to the close connection between catatonia and hebephrenia and said that some of the cases of catatonia should be classed with dementia præcox (6). I did not consider, however, that it was

right to class all cases of catatonia with dementia præcox. Catatonia, as a symptomatic group, may be found during the course of various mental disturbances, and is found, also, in cases of amentia. This fact is probably the reason why there are so many divergences of opinion among authors regarding the cause, characteristics, termination, etc., of catatonia.

The introduction of paranoidal forms into this group is quite acceptable; but it is absolutely erroneous to place here chronic paranoia with hallucinations (typical delirium of persecution) and there seems to exist no excuse for such an arbitrary grouping (7). It is possible that in the near future we shall become acquainted with the relation to this group of amentoid, melancholoid, manioid, etc., dementias, as dementia may become the closing scene of other than delirious mental states. For the present, it is not quite clear in what relation this new variety stands to delirious attacks and the more prolonged psychoses of the degenerate, which end in complete recovery.

The theory of auto-infection through the sexual organs is not based on any positive data and is inapplicable to the delirium of persecution and to mental diseases of adult age. The theory loses in its generalization, failing to unify the clinical forms on the basis of their pathogenesis.

Kraepelin is credited with having introduced a so-called new method of clinical analysis, which strives to bring to the fore objective signs, as such are the leading indices in dementia præcox (automatism, negativism and stereotypias).

I think that such an assertion is based on a misunderstanding. This can easily be seen from the fact that the above mentioned signs are not absolutely necessary accompaniments of the disease; besides, these signs may be found to exist, in even a more marked degree, during the course of various other mental forms (amentia, hysteria, progressive paralysis, etc). The main point is that these signs cannot be considered as constituting absolute objective indices of a given disease; the diagnosis cannot be made on the strength of their presence, as they may accompany many diseases. The correlation of negativism and stereotypias can be established in many forms of mental disturbance, showing that the signs depend on an impaired intellectual sphere (8). Esquirol's typical case is illustrative in this respect ("Budge and you are lost"), showing that motor resistance may be due to a commanding hallucination. Kraepelin's assertion, therefore, given in explanation of similar phenomena ("every tendency is soon replaced by one more intense"), seems less intelligible than are the explanations found in clinical cases.

Thus, we must admit that Kraepelin's views have not advanced our knowledge of dementia præcox; they have, on the contrary, introduced a series of complex misunderstandings. We are forced to consider his dementia præcox as an artificial creation of a group, which comprises most diverse pathological processes. There is an absence of a fundamental point of view,—a contradiction between the definitions, and the disease is confounded, in the same series, with secondary dementia, amentia and chronic paranoia.

III.—I have endeavored in this report to call attention to Kraepelin's views. For reason of lack of space here, I limit myself to this negative side of the question, giving, in general terms, my own point of view on the subject. The report will be published in extenso in the "*Journal S. S. Korsakova*," Nos. 1-2, 1902. Dementia præcox should comprise only those forms of mental disturbance the fundamental traits of which are: 1,—the onset of disease taking place not later than the adolescent age, and 2,—rapid development into a condition of mental enfeeblement, in various degrees. As the course of this disease is various, according to cases, dementia præcox may be divided into three varieties.

(a.) In some cases, it is impossible to trace any acute period of the disease; there seems, on the contrary, to be a slow and progressive psychic disintegration of various degrees.

(b) Other cases seem to be characterized by the manifestations of acute symptoms of various forms. To this group belong several varieties, although they cannot be distinctly circumscribed, as they may, sometimes, merge one into the other. In some cases, Hecker's form of hebephrenia seems to predominate, while in others, the catatonic form is most in evidence; in a third group, finally, the delirious aspect (paranoid form) seems to predominate. At times, however, it is impossible to divide one from the other.

(c.) In some cases, dementia præcox may be considered as a secondary manifestation, i. e., secondary to some acute psychic disease (amentia, dementia acuta.) An acute psychic disease at that period may end in recovery, leaving a slight psychic defect; on such an impaired basis may take place either an acute exacerbation or a relapse of the disease, leaving every time a more and more impaired psychic condition (dementia secundaria progressiva) (9).

Physical signs would be very valuable in the diagnosis of dementia præcox; unfortunately, we have no reliable signs to that end. Kraepelin indicates increased reflexes and inequality of the pupils as guides, but these are not invariable accompaniments of the disease; they only indicate the gravity of the affection, and are found in certain forms of amentia. Similar remarks are applicable

to the various convulsive manifestations in the early stage of the disease (10). At present, our main guide is the patient's age, the characteristic course of the disease, and some particularities of manifestation, when they are present (hebephrenic and catatonic symptoms). In connection with these indices, there seems to exist, from the very onset of the disease, a certain mental stamp that points towards termination in dementia. In the beginning of the disease, the diagnosis is rather less difficult in the first variety of the disease, described under the heading "a." There is not much difficulty in diagnosing the typical cases of hebephrenia and the catatonic and paranoidal forms, which, from the very onset, are characterized by psychic enfeeblement. In other cases, it seems necessary to differentiate the disease from amentia, periodic psychoses and delirious attacks of the degenerate. In such cases, the differentiation is at times very difficult, and the diagnosis can be made only after a long period of observation. As regards the terminal state of the disease, the only differentiation to be made is from secondary dementia; in this form of disease there may also be manifested, certain gestures, stereotypias and poses, which are considered by some as being characteristic of dementia præcox. The age at which the disease sets in becomes a valuable point, and besides, the onset and the whole course of the disease during the acute stage must be taken into consideration.

There is no ground for denominating a disease dementia præcox if it sets in after the adolescent period,—when the psychic side of the subject has become matured; an acute onset with a subsequent demential ending should not influence the making of the diagnosis in favor of dementia præcox. Such dementia is not primary, but secondary. It is a question whether the third group of dementia præcox indicated above should be classed with this latter. To avoid a battle of words, however, it must be remarked that the definition of dementia præcox corresponds well with the form described; the dementia is incurable from an early age; the secondary dementia is completely covered by the early dementia, which was not cured before the completion of the psychic formation of the subject. I agree that other psychoses than dementia præcox may develop and during the adolescent period end in dementia; it is possible that in the future we shall be able to differentiate between such forms and dementia præcox; but at present we cannot differentiate between secondary dementia of adolescence and dementia præcox.

We do not know of any special pathology characteristic of dementia præcox. We can only surmise that some special anatomical changes underly all forms of dementia.

The theory of auto-intoxication as a cause of the disease is quite alluring, but it cannot be substantiated. The theory of infection with the products of the sexual organs is altogether unfounded. Kraepelin's views (11) are refutable. According to him, there exists an intimate correlation between dementia præcox and the period of sexual development, menstrual disturbances and childbirth. This view is untenable because there are cases in which these conditions are absent; there are cases where we cannot even point out any one cause, external or internal; besides, the above mentioned conditions are not specifically responsible for the occurrence of dementia præcox; other mental manifestations may set in through similar causes.

The treatment of this disease must remain ineffectual so long as we remain ignorant of its cause. In the future, perhaps serum-therapy and organo-therapy will play an important role; for the present, however, a good deal should be accomplished by rational treatment at our disposal, preventing the progress of the disease. General regime, employment, mechanical and other, should be given. In private institutions, where regular employment is not in vogue, the patient's welfare is rather at a disadvantage. The open air and country life are most advisable. As regards bed treatment, Neisser and Korsakoff have pointed out the danger of too prolonged administration of the treatment; it should be limited to the acute stage only and promptly discontinued with the disappearance of the latter.

(Report read at the Second Congress of Russian Psychiatrists, January, 1902. Abstract for publication in the *Journal of Mental Pathology* made by the author. Full report published in *Journal s. s. Korsakova*, No. 1-2, 1902).

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THE PSYCHOSES WITH DELUSIONAL INTERPRETATION AS A BASIS.

BY DRS. PAUL SÉRIEUX AND J. CAPGRAS.

The delusional interpretations which sometimes appear as true hallucinations, present themselves under three distinct clinical aspects.

1.—Episodic interpretations may be observed during the course of the majority of mental diseases; the role of these interpretations is of no importance.

2.—The delusional interpretations may, by their more or less exclusive predominance over the sensory disturbances, constitute a *syndrome* common to a certain number of clinical forms of mental disturbance, either acute (generally without systematization) or chronic (with systematization). The syndrome of an acute psychosis, with delusional interpretations as a basis, is found in insanity of the degenerate, in presenile melancholia, periodic insanity, toxic delirii and dementia præcox. That syndrome is dependent on a disturbance of judgment, which, aside from the influence of an insane predisposition, is in itself a functional manifestation of a condition of mental confusion, due either to an obsessional emotion, or a psychic enfeeblement,—congenital or acquired.

Delusional interpretations may also play a predominant role in certain chronic psychoses, as in the following: the period of incubation of the delirii of persecution, senile delirium of persecution and insanity of the *persécutés-persécuteurs*. The appearance of this syndrome is due either to intellectual enfeeblement or to obsessional ideas.

In a word, in this category, the delusional interpretations, playing a more prominent role than the sensory disturbances, are pre-eminent in the symptomatic *tableau* of distinct psychoses.

3.—In the third category, the delusional interpretations constitute the preponderating symptom of a chronic systematized delirium, which presents well defined characteristics in its symptomatology and evolution and may be considered as a clinical autonomy. This psychosis is characterized by the following signs: very slow development of the systemtized delirium of various coloring (most frequently there is a combined delirium of perse-

cution and grandeur); almost constant absence of hallucinations (or very slightly marked presence of same); a marked variety of delusional interpretations, which constitute the very basis of the morbid conceptions; a very slow and progressive course; absence of systematic evolution and absolute incurableness; persistence of integrity of the intellectual faculties (no periods of dementia).

This clinical form of mental disturbance we propose to designate *chronic systematized psychosis with a basis of delusional interpretations*, or more concisely,—*psychosis with a basis of interpretation*. The disease has been studied by many authors, notably Lasègue, in 1852, Legrain (1886), and particularly Séglas (1890), Sérieux (1890)* and Magnan, in France; in Germany,—Sander, Kraepelin (1889) and particularly in 1899.

THE ONSET.—There is no form of mental disease which presents as much difficulty in fixing the date of onset as does this one; the extreme slowness of incubation, the age of the delirium when the physician is called into consultation, the reticence of the patient and his congenital tendencies to delusional interpretations, all contribute to make the difficulty. Besides, these patients have a particular aptitude for bringing their remotest past into correlation with their unhealthy conceptions (retrospective delirium). It may be said, with a certain reserve, that the psychosis with a basis of interpretation sets in, generally, between the ages of 20 and 40, especial predilection being noticed during the periods between 20-25 and 35-40. For this reason, two forms are pointed out: one with a *precocious* and the other with a *tardy* onset. In some cases, it seems that onset may be said to date from very childhood; here, however, a great difficulty presents itself when one tries to differentiate between a true precocious delirium and one that is built up by the patient through retrospection.

From a symptomatic point of view, it is important to bring to light the basis of well systematized conceptions, which is often built on false deep-rooted convictions of the patient; the coloring of the delirium is not less important; it is generally a combination of ideas of persecution and grandeur, and is very difficult to differentiate from the chronic delirium of Magnan. An examination of the delirium under consideration shows that the psychosis is based exclusively on a vast structure of multiple delusional interpretations, which, without the intervention of hallucinations, suffices for a well rounded construction of an unfounded history. In some cases hallucinations may manifest themselves; but their

*P. Sérieux. Le delire Chronique à evolution systematique. *Bull. de la Soc. de Med. de Belgique*, 1890-1901.

role is only secondary; their presence only renders the making of the diagnosis more difficult, until a thorough examination shows that the fundamental basis of the disease consists of delusional interpretations.

THE ASPECT of these patients is of interest, as they appear less "delusional" than do those suffering from ordinary delusions of persecution. Their lucidity and syllogistic faculties are less impaired; the absence of disturbances of the general sensibility and particularly the absence of the psycho-motor hallucinations, enables them to dissimulate their true condition. The well developed memory and ready dialectic capacity also enables the patient to defend his erroneous convictions in a manner nearer the normal than that seen in the ordinary subject with delusions of persecution: the latter generally complains of physical persecutions, using neologisms, and his sensory disturbances brand him more and more as a pathological subject as time goes on. The one subject to the psychosis with a basis of interpretation accumulates proof upon proof, having a ready answer to every question, citing dates, posing dilemmas and bending every insignificant fact to suit his case. A conviction, thus fortified, from day to day, by accumulative proofs, remains unshattered and may even lead to psychic contagion (*folie à deux*).

At times, these subjects, like the *persecutes-persecuteurs*, react against those to whom they ascribe their grievances, thus becoming persecutors.

THE FREQUENCY of this psychosis with a basis of interpretation is rather rare: one case in 90 or 100 admissions. The sex does not seem to have any marked influence.

THE DURATION of the disease is indefinite. It is impossible to distinguish either a systematic evolution or well defined periods.

THE TERMINATION generally takes place from senility; dementia, so frequent an end in paranoia and systematized delirium, is rather a rare occurrence in the psychosis with a basis of interpretation.

THE PROGNOSIS of this chronic affection is unfavorable. A cure never takes place.

THE ETIOLOGY is difficult to outline, outside of the unquestionable influence of degeneracy. The influence of auto-intoxication, considered as a cause of dementia præcox, cannot be considered as a cause in this affection.

DIAGNOSIS.—Patients suffering from the psychosis with a basis of interpretation are too frequently confounded with those afflicted with hallucinatory persecution or else with the *persécutés-persecuteurs*. They are particularly confounded with the latter

when they react similarly; besides, there seems to be some similarity between them by reason of the absence, in both cases, of hallucinations, by the intellectual activity and the lucidity. There are some characteristic traits, however, which distinguish these two psychoses. The delirium of the cases here considered is based on an *obsessional idea*, which irrevocably burrows its way into the mind, without the necessary participation of true *delusional interpretations*. In the *persécutés-persécuteurs*, on the contrary, the delirium becomes systematized by reason of multiple delusional interpretations. In the latter cases, there is generally an authentic fact that is amplified through the natural tendency of the subject; obsessional ideas are thus created, which subjugate the patient's acts to themselves, so that these subjects are not as much sufferers from delusions as they are invalid through obsessions. They act very much more than they react from delirious conceptions. The subjects suffering from the psychosis with a basis of interpretation, on the contrary, suffer a great deal more than they act. If, however, they do sometimes react vigorously, it must be borne in mind that their marked reticence suppresses reaction, which, once brought into play, may overstep the ordinary limits of action in these cases. Besides these distinctions, one must study the course and evolution of the disease, when there is any difficulty in differentiating this form from the chronic delirium of Magnan.

Clinical differentiation must also be made between this disease and the following: paranoidal dementia, acute hallucinatory psychosis, acute psychoses with a basis of symptomatic interpretation of periodic insanity of the degenerate, melancholia and finally, certain delirii of senility.

(Paper read before the Paris *Medico-Psychological Society*. Abstract for publication in the JOURNAL OF MENTAL PATHOLOGY made by the authors. The paper is published *in extenso* in the Proceedings of the Society, April, 1902).

THE GENESIS OF EPILEPSY CLINICALLY CONSIDERED. THE PATHOLOGY, PROPHYLAXIS AND TREATMENT OF EPILEPSY.

ILLUSTRATED BY CASES AND STATISTICAL TABLES.

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(Continued.)

THE FATE OF THE ALCOHOLIC FAMILY.

The family of the alcoholic is small, as a rule, and the offspring may be afflicted with any form of psychoses or neuroses.—Epilepsy, idiocy, imbecility, insanity, hysteria and criminality are most frequent manifestations.—Where the number of children is large, the first born only are apt to survive, the last dying in infancy of meningitis.—Cases.

With the preceding description of the clinical manifestations of alcoholism and its cerebral anatomo-pathology, one is well prepared to trace the cause and effect,—the relation existing between parental alcoholism and epilepsy in the offspring. I have already had occasion to state in this paper that alcoholism in the parent may become the cause not only of epilepsy in the offspring, but also of many other morbid psychic manifestations. I have demonstrated, in previously published papers, the rôle parental alcoholism plays in the genesis of criminality, idiocy and imbecility in the offspring. Epilepsy is one more morbid variety, which owes its birth to the same cause. I have had occasion to mention the paucity of the number of children in the alcoholic family, and have quoted Morel's statement to that effect, which consists essentially of the truth that were one to suppose a whole community addicted to the abuse of alcohol, such a community could become extinct.

Such, then, are the effects of alcohol on the human family.

The alcoholic family is remarkable not only for the small number of children born, with the various psychopathic attributes of such children, but also because of the fact that where a large number of children are brought into the world in such a family, the majority of them die in infancy of convulsive disturbances, the survivors bearing the indelible mark of a defective nervous system,

Here, indeed, are two families whose records, copied from the statistical table that is appended to this paper, are in accord with the above statement.

Case VII.—B. G., 24 years of age, entered the Admission Bureau, Ste-Anne Asylum, June 22, 1899, suffering from mental debility and epilepsy. The father was a drunkard; the record of his 13 children is:

One girl died at the Ste-Anne Asylum, insane and epileptic.

One girl has been epileptic since the age of 13.

One girl is healthy, but wet her bed up to the age of 12 years.

The fourth child is our patient, and nine children died in infancy of "convulsions."

Case VIII.—The patient indulges in cognac and in one litre of wine daily. He married when 18 years of age, and has had nine children. Their record is:

1, a boy, born in 1882, is extravagant and has perversion of the senses.

2, a boy, born in 1883, is an idiot, an inmate at the Bicêtre asylum.

3, a girl, born in 1886, is afflicted with mental debility.

4, a boy, born in 1888, died, at the age of three years, of diphtheria.

5, a girl, born in 1890, is healthy.

6, a boy, born in 1892, suffers from mental debility and epilepsy.

7, a girl, born in 1895, died at the age of 8 months, of "convulsions."

8, a girl, born in 1896, died when six months old, of "convulsions," and

9, a girl, born in 1897, died when 7 months old, of "convulsions."

It is instructive to remark that in both the cases cited, the first born children, although afflicted with various psychoses and neuroses, are yet sufficiently valid to survive and grow to mature age; the latter born, however, when the alcoholic parents are undermined in health, are too invalid to survive the age of infancy, dying of "convulsions."

It is true that in other cases cited, the first born died of "convulsions," but when this is the case one is justified in presuming that the alcoholic indulgences were of a marked degree at the time of the conception of those children; as a rule, when the first children of alcoholic parents die of "convulsions" there are few chances of any healthy children being born subsequently, unless the parent stops drinking entirely. On the other hand, as seen in case VIII,

where one healthy child is born while all the others are not healthy, two points of interest are to be considered:

1, will that healthy child be healthy when it grows up?

2, if it is healthy throughout life, which is hardly plausible, then—did healthy heredity on one side exert a sufficiently strong influence and transmit to the child sufficient resisting power to enable it to exist?

Those who have devoted themselves to the study of the relation of alcoholism to epilepsy agree that alcohol is a potent factor in the production of convulsive diseases. One of Dr. Magnan's distinguished pupils, Dr. Legrain, says in this respect:

"If, indeed, alcohol, by its action, does induce directly the convulsive state in the individual, it is a well-known fact that it (the alcohol) induces it (indirectly) in his descendants. It is not necessary any more to demonstrate that the sons of drunkards are, in a large majority of cases, candidates for some or other convulsive neurosis. Now, as we have shown, with documentary proof, that a large proportion of drunkards give birth to drunkards also (two-thirds), it follows that in those latter, in a large number of cases, alcoholism and the convulsive state will coincide, both having as a primary cause the influence of heredity. These facts are so true that one could almost lay down a general formula: father *drunkard*, son *epileptic*, as we have already established the formula: father drunkard, son drunkard; and these two formulæ are frequently confirmed by clinical data.

"The infantile convulsions represent the most elementary formula in the descendants of alcoholics. The convulsions take place during the very first few months or years after birth, when the children are under the preponderating influence of heredity. The convulsions are so much related to this influence that one sees, more frequently, almost all the children of one parentage afflicted with convulsions. These children are, in many cases, also future epileptics.

"Next to infantile convulsions come, in frequency, the epileptic neuroses." (Legrain, *L'hérédité et l'alcoolisme*, p. 342.)

IV.

GENERAL CONSIDERATION OF THE VARIOUS CAUSES OF EPILEPSY, AND STATISTICAL TABLES SHOWING THE CAUSES OF EPILEPSY.

Alcoholism in the parent is a leading cause of epilepsy in the offspring.—Epilepsy may also be inherited directly from the parent. The insanities, hysteria, general paralysis, imbecility and neuroses

of the parents are factors in the production of epilepsy in the offspring.—Organic diseases, such as tuberculosis, etc., may be exciting causes of epilepsy in the offspring.—Syphilis, small-pox and other contagious and infectious diseases may be exciting causes.—Maternal impressions are sometimes exciting causes.—Statistics showing the causes of epileptiform and epileptic attacks.—

The clinical data that have been cited up to now show that alcohol is the leading cause of epileptiform and epileptic attacks. Yet one can hardly appreciate the extent to which alcohol is at the root of those diseases, and particularly of epilepsy. The analysis of the clinical material submitted below gives one an idea of the degree to which alcohol is a specific factor in causing epilepsy. Where epilepsy is inherited from an epileptic parent, one may incriminate alcohol as a cause only indirectly, as the histories in such cases generally show that the grandparents suffered from alcoholism.

The insane and imbeciles, the criminal and neurotic are another set of parents who are apt to give birth to epileptic children in a proportion that will be shown below.

In papers referred to here I brought to light the extent to which idiocy, imbecility and criminality are due to parental alcoholism; it is important, then, to trace the cause of epilepsy,—when it springs from imbecile and criminal parentage,—to its original source, if one is to be sincere in such an investigation.

The neuroses and organic diseases appear as causes of epilepsy, as do maternal impressions during pregnancy; but the clinician must scrutinize the facts thoroughly in such cases before incriminating any one of those maladies as a radical cause of epilepsy. One must search diligently for an accompanying predisposition for inheriting epilepsy. For, to paraphrase Dr. Magnan's claim in this respect, if tuberculosis causes epilepsy, then why is there not an epileptic offspring in every tubercular family?

Syphilis, small-pox and infectious and contagious diseases during pregnancy are apt to cause epilepsy in the offspring. And yet it seems logical to apply the above reasoning in this instance as well.

As every one knows, syphilis is a prevalent disease, yet not every syphilitic parent gives birth to an epileptic child.

The important questions of the causation of epilepsy can be resolved only by means of a thorough study of the family history as well as of the members of the family, when possible.

To conclude, the tables show that alcoholism in the parent is the cause of epilepsy in the offspring in an overwhelming majority of cases.

*A statistical table of records of patients
admitted to the Admission Bureau, Ste-Anne Asylum, Paris, dur-
ing the years 1897, 1898 and 1899.*

The patients included in this table are those who suffered from epileptiform or epileptic attacks. Only those patients were chosen whose friends could furnish sufficiently intelligent information. The records of patients about whom no information could be obtained were left out. This table is an abstract of the one obtained from the records. In preparing the table it became evident that the patients should be grouped in two classes:

Class I.—Chronic alcoholics having no heredity to account for their convulsive attacks.

Class II.—Those with convulsive attacks whose heredity is traceable.

As the statistical data were collected at two different periods, with one year's interval, they are divided into two groups and will be cited separately because there is a distinct discrepancy between the numerical values which they show. The discrepancy will be properly explained, however, after the table is cited.

Table I, a.—Chronic alcoholics admitted to the Admission Bureau, Ste-Anne Asylum, Dr. Magnan's service, from April, 1897, to June, 1898:

Clinical record of twenty-five alcoholic patients.

- | | |
|----|--|
| 2 | patients have vertigo and slight convulsions. One of these patients had but one child, who died when 22 days old. |
| 15 | patients have epileptiform attacks. The only child recorded among these had convulsions when a nursling. |
| 8 | patients have epilepsy. |
| | 1 has physical stigmata of degeneracy;
3 are addicted to the abuse of absinthe;
3 give no other information that that they are chronic alcoholics;
1 has three children, of whom one is an epileptic. |

—
Total 25.

Table I, b.—Chronic alcoholics admitted to the Admission Bureau, Ste-Anne Asylum, Dr. Magnan's service, from July, 1898, to June, 1899.

Clinical record of twenty-four patients.

- 18 patients have epileptiform attacks. One of these has had nine children, whose record is given in this paper. Another patient has physical stigmata of degeneracy.

- 6 patients are epileptics; one of these has physical stigmata of degeneracy

Total 24.

Barring the three epileptic cases, in table "I, a," addicted to the abuse of absinthe, it is logical to surmise that in the remaining cases of frank epilepsy there exists, besides the chronic alcoholism, some underlying cause, which, in conjunction with the chronic alcoholism, causes true epilepsy to take place. As has already been shown, absinthe is apt to induce true *epileptic* attacks, while chronic alcoholism induces *epileptiform* attacks. Doubtless, a thorough search into the history of the antecedents of those epileptic cases said to have no morbid heredity would reveal some cause which, in conjunction with the chronic alcoholism, is responsible for the epilepsy.

Table II, a.—Seventy-six cases with convulsive attacks, whose heredity is traceable, admitted to Ste-Anne, from April, 1897, to June, 1898:

Clinical record of seventy-six patients.

62	patients.....	epileptic
10	".....	hystero-epilepsy
4	".....	epileptiform attacks

Total 76.

Heredity in the seventy-six cases.

54	cases.....	father alcoholic
22	cases.....	other heredities

Total 76.

The other heredities are:

		2 have epileptic fathers.
		1 has an epileptic mother.
6	had epileptic parents.	2 have epileptic mothers, one of whom is also insane.
		1 mother suffers from "petit mal" and incessant muscular movements.
2	have epileptic uncles.	1 epileptic.
		1 epileptic and alcoholic.
1	has vertigo.	1 mother has spells of vertigo.
2	suffer from hysteria.	2 mothers have hysterical spells.

		I father imbecile, is an inmate in the Bicêtre Asylum; mother suffered from mental debility and died in a hysterical spell. Patient alcoholic.
2	have insane parents.	I father died insane in the Ville-Evrard asylum.
2	collateral members of family insane	I maternal aunt insane at Ste-Anne. I maternal uncle insane.
2	have physical stigmata of degeneracy.	I father died of cardiac disease; patient has physical stigmata of degeneracy. I patient has physical stigmata of degeneracy.
3		I father highly nervous and violent of nature. I mother nervous, paternal grandfather nervous. I mother nervous, grandfather alcoholic.
2	negative hereditary history.	I nine children in family, seven of whom died of convulsions. I twin sister, 10½ years of age, had convulsions when 6 weeks old.

Total 22.

Table II, b.—Sixty-four cases with convulsive attacks, whose heredity is traceable, admitted to the Ste-Anne Asylum, Dr. Magnan's service, Paris, from June, 1898, to June, 1899:

Clinical record of sixty-four cases.

53	.....	epileptic
10	.....	hystero-epilepsy
1	.....	epileptiform

Total 64.

Heredity in the sixty-four cases.

36	.....	fathers alcoholic
28	.....	other heredities

Total 64.

The other heredities are:

- | | |
|---------------------------------|---|
| | I father had convulsions and cardiac disease. |
| 5 have epileptic heredity. | I aunt epileptic, brother insane.
I paternal uncle epileptic.
I father and brother epileptic.
I father somnambulist, brother rachitic. |
| | <hr/> I father insane, killed himself; paternal grand uncle killed himself; mother nervous, exalted.
I mental debility of mother.
I mother died insane. |
| 8 have insane heredity. | I paternal grandfather insane.
I father died of general paralysis.
I aunt died insane, patient alcoholic.
I mother insane, father died tubercular, two brothers epileptic, patient alcoholic.
I mother hysterical when young. |
| | <hr/> I paternal grandmother paralyzed; maternal grandfather died of paralysis; one sister had convulsions when young.
I mother had disease of spinal cord, father nervous.
I father died of cerebral apoplexy. |
| 3 have anatomonervous heredity. | <hr/> I mother tubercular, had a fright while pregnant with patient.
I mother tubercular, father had Bright's disease and grandfather had disease of spinal cord.
2 mothers tubercular. |
| I syphilitic heredity. | <hr/> I father syphilitic and has cardiac disease, mother feeble physically. |
| I invalidity. | <hr/> I epilepsy set in on patient's recovery from typhoid fever, when ten years of age. |
| I | <hr/> I grandfather alcoholic, father violent, mother has cardiac hypertrophy; one child, 9½ years old, had meningitis and convulsions. |

I	I father violent, mother died at 26 years of age.
I maternal impression during pregnancy.	I maternal impression during pregnancy; fright at seeing a child killed while pregnant with patient.
I	I no positive pathological heredity.
2	2 absence of morbid heredity.

—
Total 28.

The discrepancy between the percentages of alcoholic parents in table II a, and table II b is well accounted for. As is well known, the service in the Admission Bureau, at the Ste-Anne Asylum, is the best conducted of any asylum. During the three summer months, when many of the asylum physicians are absent on vacation, a large amount of work falls on one physician, many services depending on his available time. The information gathered from friends necessarily becomes somewhat curtailed in some cases. It is safe, therefore, to presume that, if anything, the percentage of alcoholic parents in table II b is rather underestimated, for the reason given, than that the one in table II a is overestimated.

The statistics above shown are convincing to the effect that alcoholism is the original source of the convulsive diseases in a marked percentage of cases. True epilepsy was traced thus: in table II a, 54 out of 76 patients had alcoholic parents, and in table II b, 36 out of 64 patients had alcoholic parents.

As for the epileptiform attacks, alcohol was responsible for their occurrence in forty-nine of the cases admitted during the period of three years and examined as stated.

Broadly speaking, then, convulsive diseases are due to alcoholic abuses, either by the patient himself or by his antecedents, in 140 out of 189 cases.

From what has been brought out in this paper it is evident that a great duty devolves on the clinician; he must have a thorough understanding of the working of alcoholism on the human brain; he must use his influence in the struggle against popular alcoholism.

(To be continued.)

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Original researches and other MSS. will be carefully considered, and if found unsuitable will be returned, if accompanied by stamped, self-addressed envelope. News items from Institutions will be given all space available.

The State of Rhode Island is the smallest State in the American Union in point of geographical size; oddly enough it boasts of two State Capitals, and in one of these, the City of Providence, is published the Providence Medical Journal. We are in receipt of No. 3 of Vol. 3 of this Journal, a handsome appearing bi-monthly publication consisting of thirty-three pages of reading matter. From the contents of the third page of the issue above mentioned, we learn that this publication most emphatically disapproves of a grievous error in journalism into which almost all the leading American medical publications have fallen. To be precise:—we are told, editorially, that the practice of publishing “abstracts” is “because of its general adoption, in some ways a bore.” The editor of this publication further intimates that he has cause for self-gratulation in the fact that the Providence Medical Journal “has not since its beginning published a line which has appeared elsewhere in print, save in perfunctory notices.”

We congratulate the editor of the above named estimable publication on the peculiar merit of his journal in general and on his frank and easy appreciation of its qualities in particular. We cannot, however, allow the incident to pass without making some

plea for all the other editors of this broad land, who are unable to appeal for a like measure of professional appreciation and approval. Frankly speaking, —we believe in the “abstract” as a concrete proposition. While we do not presume to pit the value of our opinion against that of the editor of the Providence Medical Journal, yet it seems to us that the abstracts of the scientific papers contributed by the members of the medical profession and by scientists all the world over, as the same appear in the various periodicals of the civilized world, have some value. We would not for a moment intimate that original work is not preferable to abstracts, and if it were possible for every publication to contain, in every issue, original articles covering all the subjects covered by all the other publications in the world, a condition would prevail which would entirely do away with the necessity for abstracts; but as it seems impracticable to publish a weekly or monthly journal containing original papers only, as above defined, we feel that we shall still have to fall back on the ever-useful “abstract.”

There is a charm in the abstract. By its aid we are enabled to put before our readers a series of pictures, so to speak, illustrating the state of scientific thought and investigation throughout the world, bringing our own countrymen into most intimate contact with the scientists, students and philosophers of the entire domain of science. The moral effect of such association cannot be overestimated; it often enables us to broaden our point of view and to gradually do away with that certain human trait which, in the language of the day, is denominated “pusillanimity,” this trait often being accompanied by a variety of psychic blindness which makes us see ourselves as being all that is fine and desirable and which makes us see our neighbors as being all that is bad and undesirable.

We have sympathy for the editors who have incurred the disapproval of the Providence Medical Journal. It is true that in order to be able to control the efforts of the “abstracters of current literature,” it is necessary for an editor to keep in touch with the progress in thought of the entire world of scientific “workers” and to be acquainted with at least four or five foreign languages, as he would otherwise be at the mercy of any unscrupulous maker of abstracts who might choose to impose on his ignorance. It is therefore obvious that an editor who happens to be free from the burden of “accomplishments” can easily fortify himself against imposition and deception by emulating the example of our esteemed contemporary and never publishing a “line which has appeared elsewhere in print.”

There is a certain charm in exclusiveness, and we have no doubt

that there is a certain merit in being different from all the rest of the world; the unusual always attracts, as witness, the "fat boy" who figures so prominently in the *Pickwick Papers*, and who astonishes all beholders by his peculiar aptitude for inopportune and wholly irrelevant slumber. So far as we remember, the fat boy of the *Pickwick Papers* was perfectly satisfied with himself; the only thing that annoyed him was the insufficient size of the pork pie and the wholly illogical and unnecessary activity of those benighted mortals with whom an unkind fate forced him into daily contact.

Long life to the "abstract" say we. We hope to see the day when every American medical publication will serve as a ready index to all the other medical publications of the world, so that the busy practitioner and student may be enabled to readily refer to every scientific publication of value in this wide world, without having to be the possessor of a private library, or of an income sufficiently liberal to enable him to subscribe to all the medical publications extant.

ON ALEXIA.—PROF. MENDEL presented a case of alexia in a man 48 years of age, whose hereditary history was good, and who was free from syphilis; but he was addicted to the alcoholic habit. In June, 1901, his eye-sight suddenly became impaired, first in the right and then in the left eye, so that he experienced difficulty in reading; this was soon followed by disturbances of speech, which were expressed by an inability to use the right words. He could write, but found it impossible to read. An ophthalmoscopic examination showed that his eye-sight and the retina were normal, yet he had right hemianopsia. Red was recognized correctly, but blue and green were often taken by the patient for yellow. Outside of these indications, there were no nervous disturbances. A physical examination showed that the cardiac area was somewhat extended towards the right and that the arteries showed signs of sclerosis. The details of the alexia were as follows: the patient could recognize as well as indicate letters, but he was unable to read words, not even his own name; yet he could write, under dictation or spontaneously. He could read hand writing if he observed the letters while they were being written. In explanation of these complex symptoms Mendel gave the following diagram: there is a communication between the centres, where are deposited the sounds and images of letters respectively; these centres are in their turn in communication with the verbo-motor centre; there is also a communication between the visual and graphic centres of letters,

enabling us to reproduce our impressions of letters in graphic lines. The word-centre is in intimate as well as intricate connection with the centre of letters and its corresponding auditory centre. The building of a word with letters, therefore, implicates several centres which must all be in perfect order. Thus, in this patient, who can read letters, but cannot build words with the same, as is usual, there must be an interrupted connection between the letter and word centres, he suffering, therefore, from a subcortical verbal alexia. The author has found forty similar cases in literature; but there are only three or four of those that were uncomplicated. Subcortical alexia is generally accompanied by right hemianopsia; although there is one case recorded with left hemianopsia; this case was left-handed. In most cases the autopsy revealed a focus in the inferior part of the gyrus angularis.

The letter-centre is located in the occipital lobe, the centre of hearing in the superior temporal and the centre for building words in the left gyrus angularis. An interruption of communication between the left occipital lobe and the gyrus angularis destroys the ability to build words. As the occipital lobe is also the centre of sight, its lesion must of necessity cause right hemianopsia (psychic blindness). In the case under consideration, there must have been an apoplexy from the inferior occipital artery, causing a thrombosis. Such an occurrence is not unusual in alcoholic cases with arterial sclerosis. (*Algem. Wiener Medizin., Zeitung*, Feb. 18, 1902.)

ON THE TREATMENT OF EPILEPSY BY THE TOULOUSE-RICHET METHOD. — DRS. JENO and AND. BAGARUS: Of the many treatments in vogue at various periods in the history of medicine, none has been curative, but some have been palliative. Although eager to find methods better than those of our predecessors, we seldom succeed, and often fall into the trap of advocating methods that are even dangerous. One of the recent methods (1893),—the Flechsig cure, belongs to the latter group; the treatment consisted of combining opium with the bromide salts. In 1897 the originator of this “cure” himself admitted that he had little faith in the efficacy of the treatment and that one of his enthusiastic pupils had made the reputation of the method. Many other enthusiasts were soon forced to forsake their newly formed beliefs in the virtues of the method, as fatalities resulted from that treatment. The latest method in vogue is called the Toulouse-Richet cure. It consists of an artificial abstraction of the table salt from the system (by withholding the salt from the foods in-

gested) and the administration of certain doses of the bromide salts; the bromides are virtually substituted for the chloride salt, and the former act on the system more energetically, and more thoroughly.

The authors experimented on 15 cases of epilepsy, administering the Toulouse-Richet treatment. The patients were daily given 2 litres of milk, 2 eggs, 750 grams of bread for the men, and 500 grams for the women; besides, every patient was given 3 grams of bromide during a period of two weeks, after which the dose was reduced one-half. The treatment was begun in May, 1901. The conclusions drawn by these authors are to the effect that while the number of fits was reduced in some cases, there was a decided increase of the attacks in others; some cases suffered from spells of collapse, which must be ascribed to the abstraction of the chloride salt from the system and to the consequent poisonous action of the bromides. Two cases ended fatally, and the cause of death was invariably given as having been bromide poisoning.

The authors conclude that the Toulouse-Richet cure for epilepsy neither cures nor ameliorates the disease. While the artificial abstraction of the chloride salt from the system heightens the action of the bromides, the advantage carries with it a drawback,—a great possibility of bromide poisoning. The method must, therefore, be considered as being dangerous.

In order to discover whether the artificial abstraction of the salt or the excessive action of the bromides was responsible for the sinking spells in the patients, the authors chose two patients who were not epileptics and put them on the diet above referred to, withholding the bromides. The patients showed signs of collapse after two days' treatment, and the authors conclude that the artificial abstraction of the chloride salt from the food ingested is in itself a potent factor in the production of collapse. (*Pester Medizinisch-Chirurgische Presse*, March 23, 1902).

ON THE LIGHT REFLEX.—DR. MARADON DE MONTYEL says that the disparity in figures obtained by previous investigators regarding the pupillary reflexes, is due to the fact that those figures were indicative of conditions of various patients, during various stages of the disease; it is more rational to compile the figures furnished by the examination of the same patients during similar stages of the disease. His results obtained from 750 observations, under the conditions indicated, are as follows:

1. The light reflexes in general paralysis are more frequently abnormal than normal.

2. Exaggeration of those reflexes was exceptional; decrease was at least 20 times more frequent.

3. Decrease and abolition were observed in about equal proportions, with 4 per cent. in favor of the latter.

4. Whether there was exaggeration or decrease of the reflexes, moderation was observed in all the former, and three times in the latter.

5. The alterations in both pupils were always identical and to the same degree; in exceptional cases only was there one normal and one abolished reaction.

6. During the first period normal reaction was 10 per cent. more frequent than abnormal, whereas during the second and third stages, abnormal reaction was more frequent. Besides, the maximum abnormality was found during the intermediary stage, although the discrepancy between this and the degree of reaction during the ultimate stage could be expressed as being 5 per cent.

7. Exaggeration and unequal alteration on both sides was always found in the initial stages of the disease, whereas the frequency of abolition was proportionate to the progress of the disease; during the first stage, decrease was more frequent than abolition; in the second, decrease was equal in proportion to abolition in the initial stage, and twice less frequent in the third stage.

8. Marked decrease was never observed during the initial stage, and it was of equal frequency during the two latter stages.

9. There is not one variety of mental disease in which all reflex alterations could be found; decrease is the most frequent, and exaggeration was found mostly in the phase of mental expansiveness or the mixed stages; abolition was most frequent during the stage of dementia; decrease and abolition were in equal proportion during the depressive and expansive stages, respectively; finally, with the exclusion of the stage of dementia, both pupils were generally involved. The condition of calm or excitation seemed to have no influence on the condition of the pupils.

10. The reflexes were always found to be abnormal in traumatic general paralysis; next in order came alcoholism.

11. Exaggeration was found to exist when either syphilis or alcohol played a part in the disease; abolition, which can be found during the course of the disease induced by any cause, attained its maximum outside of these two causes, and its minimum,—in alcoholism; in this latter, simple decrease predominated; finally, traumatism only is apt to furnish one pupil with alteration while the other remains normal.

12. The reflex was more frequently abnormal than normal at all ages; nevertheless, extreme age, and, as would be least expected,

marked youth, was more frequently associated with abnormality; no statement can be made as to the definite action of either of the extreme ages.

13. During the first two stages, the alteration of the reflex was proportionate to the motor disturbances.

14. No correlation was noticed to exist between the light reflexes and the algesic sensibility; this is not applicable to the tactile sense; decreased tactile sensibility coincided with either abnormality or abolition of the luminous reflex.

15. The study of the luminous reflex can serve as a guide in doubtful cases, but it can furnish no indication regarding the rapidity of evolution of the disease. (*Gazette des Hopitaux*, No. 30, 1902).

WAR ON ALCOHOL. — In an instructive historic review of the spread of alcoholism DR. H. FOLET says that the beginning of the rapid growth of alcoholism may be traced to the later half of the XVIIIth century. England and America were then the leading countries in the consumption of alcohol. In the North,—Scandinavia and Russia, the ravages of alcohol were particularly pronounced. At an early stage, the distinguished physician of Stockholm, Magnus Huss, had already attracted universal attention to his studies on the deplorable effect of alcoholic abuses on the Scandinavian population. In 1852, he created the term *alcoholism*. At that time he had gained the Monthyon prize of the French Academy, for an essay on alcoholism, and the reporter on the prize had occasion to remark: "Thank God, we have nothing of the kind in our country." Toward the XIXth century, however, the introduction of steam power had helped bring about the distribution of various distilled alcohols throughout the country. At the same time physicians had alarmed the nation by the idea that the generation was going through a period of anæmia. "Increase the blood" was the war cry, "in order to warn off neuroses" (*Sanguis Moderator Nervorum*). Meat and wine were the remedies prescribed and various bitter tinctures containing alcohol to excess were freely used, and medicated wines sprang up in innumerable varieties. The worst alcoholic drink, however, appeared when absinthe came into vogue. An old woman formulated well the relative evils worked by simple alcoholic drinks and absinthe respectively, when she said to the author: "When my husband came home drunk we laughed at him; but now—when my grandson enters the house intoxicated,—we tremble."

In France, the increase of cases of insanity due to alcoholism is enormous, between the years 1866-1875, the number of such cases

was estimated as having been 713 yearly. In the year 1893, the number of similar cases was 3,386. The round number of insane cases for 1875 was 13,000; in 1897, it was double the preceding,—26,000. The number of suicides has also almost doubled; there had been 5,400 in 1875, while there were 9,200 in 1896. The crimes committed by alcoholics is progressively on the increase. Alcoholism is also a great factor in reducing the vitality and in making of an alcoholic a favorable subject for the development of pulmonary tuberculosis. According to recent statistics by M. Jacquet, 71 out of 100 cases of tuberculosis treated in Paris hospitals are alcoholics.

The amount of alcohol consumed in France has increased (from 1850 to 1897) from 1.12 litres to 4.72 litres per capita, thus having quadrupled in the course of 40 years; Belgium equals France in that respect; Denmark, Holland and Germany equaled France, but a diminished consumption has been observed in these countries within the last ten years.

The consumption of absinthe in France was 18,000 hectolitres in 1880; it was 168,000 in 1897,—more than 9 times more than it was formerly. This amount is more than any consumed in the rest of the world.

In 1878, Zola foresaw the ravages that threatened the country from the abuse of alcohol; he depicted these evils in most photographic terms in his *Assommoir*; but even a masterpiece like that cannot remedy such a growing evil.

THE REMEDY.—The schools are the places where the evil should be nipped in the bud; the knowledge of the dangers incurred by the abuse of alcohol should be instilled into the child's mind in a skillful manner during the day's instruction at school. Woman's influence should be pre-eminent in this struggle, as she has in her keeping all the manhood that is often allowed to remain dormant in the boy.

A distinguished member of the Belgian Chamber of Deputies has remarked, in this regard, that what woman wants ends by being desired by the electoral body. (*L'Echo Medical du Nord*, Feb. 9, 1902.)

CLINICAL AND HISTOLOGICAL FACTS IN THEIR RELATION TO CIRCUMSCRIBED CEREBRAL TUMORS.

—DR. G. B. PELLIZZI publishes two cases of cerebral tumors. In both much interest is attached to the clinical manifestations, in their relation to the histological changes of the brain, as found after death. In one case, the tumor was not suspected, as the predominant symptoms were those of progressive dementia, with an

apoplectic attack as a beginning. The autopsy revealed the fact that a tumor, the size of a hen's egg, had existed, presumably for some years; it was lodged in the frontal lobe and was adherent, in some parts, to the meninges and the white substance. A considerable quantity of cerebral substance seemed to be destroyed.—The second case was that of a man, 40 years of age, who was free from any morbid heredity, but who indulged freely in alcoholic drinks. He became subject to epileptic attacks, which recurred monthly. At the age of 43, after a severe fall, he found himself paralyzed in the left arm. Four or five years later, when the arm was completely useless, the lower limb also showed signs of paralysis, of a progressive nature; the foot was involved later, and a complete hemiplegia was thus gradually developed. There was neither cephalalgia nor vomiting, and the epileptic attacks recurred monthly, as usual. The mental faculties remained intact. The information obtained after death indicated that this patient had suffered from a cerebral tumor. The onset of the monoplegia and the gradual extension of the paralytic process should have suggested the probability of the existence of a tumor in the brain, and an operation might have saved the patient. The muscular contractures of the paralyzed limbs were sufficient evidence of the presence of a circumscribed cerebral lesion rather than of some transitory circulatory disturbances. The onset of a brachial monoplegia, preceded by epileptic attacks, and accompanied by them at regular intervals, was sufficiently indicative of the presence of a lesion of the middle area of the Rolandic convolution. Epilepsy alone could not have been the cause of a monoplegia in the adult. The two disturbances, as above described, may be met with in infants; the epilepsy is then due to special morbid conditions of the brain, which differ from those in the case here considered. A general analysis of the anatomical changes is made and compared with the results of recent researches; a valuable bibliographical list is appended to the article. (*Rivista di Patologia Nervosa e Mentale*, Vol. VII., fasc. 1.)

EXTRACTS FROM "LE CRIME DANS LA FAMILLE."
by LOUIS ALBANEL.—Considering the workings of heredity in the engendering of crime, the author calls attention to a point of interest in this connection that is worthy of consideration. He analyzes 600 families which have had criminal children brought before courts; 70 of these families are left out of consideration because they were *only* children. Thus, there remain 530 families which had 2,250 children, or an average of 4 children per family. Of this number there were 3 out of 4 who behaved well. As for

the parents of these offspring, one-fifth had bad histories, one-twentieth having been convicted of thefts, violence, drunkenness, etc. How is one to account for the good morality of the majority of the children? the author asks. Are we to incriminate atavism or idiosyncrasy? If so, why should these causes apply partially in the same family? If the education is responsible in these cases, then why did some children escape its bad effects? One must conclude that the determining factors of criminality are *multiple* as well as *individual*. One child is lost morally where its brother remains safe. The case below is cited as an illustration:

A boy, 15 years of age, was arrested for repeated moral misdemeanors of a grave nature. His father, who is a drunkard, has also been guilty of monstrous conduct. The mother forsook her home to follow another man. In this family there was another child, a girl, 17 years of age, who was brought up in the same pitiable surrounding and who, like *Fleur*, in "Mysteres de Paris," crushed by the ignoble life of those who surrounded her, took refuge in a convent, so as to remain true to her honest sentiments, which had resisted the influence of the scandalous demoralization of which she was the sad witness. Both children claimed the same degraded father and mother and yet only one was the victim of the heredity, the surroundings and the education.

With these data in hand, it is evident that we should refrain from upholding the theory that a fatal law of heredity regulates the birth of criminals or geniuses. According to a statement by Lombroso's distinguished compatriot, Enrico Ferri, Lombroso has exaggerated the doctrine of heredity in order to attract attention to it.

RERORT OF A CASE OF HYDROCEPHALUS (POSSIBLY ACQUIRED) WITH POST-MORTEM.—DRS. LOUIS RASSIEUR and CARL FISH publish this case, stating that the patient was a boy, 9 years of age, and that the family history was negative, one brother and a sister being healthy. On May 20, 1901, it was stated by the child's father that the disease had begun three months previously and that the child began to show signs of blindness a month after the onset of the disease. The main clinical features observed some days before death were: severe pain in back of neck, vertigo and cerebellar ataxia; there was also a partial paralysis of both arms and legs, and an optic atrophy. On May 24, a lumbar puncture was made and 240 cc. of fluid was drawn. Death took place on May 31. The autopsy revealed a marked dilation of the floor of the third ventricle, the brain tissue was cedematous, the

cortex thinned, the convolutions flattened; the œdematous condition was most marked in the cerebellum; the œdema did not extend below the anterior portion of the medulla. Judging from the results of the microscopic examination, the affection is considered as being of acute and idiopathic nature. Possibly the trouble was the result of an inflammatory infection of the spinal leptomeninges, which led to an obstruction of the communication between the intra-ventricular and subarachnoid fluids. (*St. Louis Med. Review*, March 1, 1902).

At a meeting of the Belgian Neurological Society, Dr. Crocq presented a case of typical acromegalia, of five years' standing; there were no signs of gigantism; there were marked mental disturbances and signs of intracranial pressure. There were present double optic neuritis, divergent strabismus and abolished reflexes. The author was of opinion that there was a tumor of the pituitary gland in this case. (*La Belgique Medicale*, Jan. 30, 1902.)

CRUELTY IN CHILDREN.—DR. FOVEAU DE COURMELLES considers the question of education during childhood and says that too much time is given to the development of the mental faculties and too little to the moral development. The scientific treatises and discussions at Congresses never reach the public; meanwhile, criminality and insanity are on the increase, and no remedy seems to be provided against the growing evils. Judges of leading courts, struck by the rapid growth of juvenile criminality, are now devoting time to compilations of statistics concerning this question of the hour, and many useful books have been published by them for the use of the general public. A question has been raised regarding the validity of literary publications in the form of novels, which deal with the subject above mentioned. There has been some strong criticism of MM. Poinso and Normandy's novel,—*l'Echelle*, which deals with this educational question of the young. The author of the article urges that encouragement be given to similar writers, if it is desired to rectify the moral cause of the growing generation. (*Ann. de Medecine et Chirurgie Infantile*, March 15, 1902).

SUTURING OF NERVES.—DR. RUOTTE reported to the Surgical Society of Lyons, three cases of sutured ulnar nerves. In all cases the results were satisfactory; much interest is attached to one case, in which the nerve remained divided until the wound caused by the fracture of the wrist was completely healed. The patient submitted himself to a second operation on account of the impaired sensibility, movements and muscular atrophy which he

had noticed. The improvement in this case was slower than in the others. (*Gazette des Hopitaux de Toulouse*, March 15, 1902).

THE TREATMENT OF DEFECTIVES. —Dr. M. P. E. GROSZMAN says in part that Prof. Monroe obtained data relating to 10,000 pupils in California schools and found 10 per cent. mentally dull and 3 per cent. feeble-minded; there are many children in public schools who could be more economically and wisely trained in schools adapted to their special needs. There are many more, nearly 10 per cent. of the whole public school enrollment, who should receive the thoughtful attention of teachers and specialists. Mr. E. Dawson states that delinquent children are below par in physical health as compared with the normal. Judging from the broadness of the face that prevails in the criminal subjects, it may be inferred that they do not outgrow the infantile characteristics. Special stress is laid on the fact that society has not learned to apply preventive measures in cases of criminality, as is done in those of dangerous diseases. (*The New York Med. Jour.*, Febr. 1, 1902.)

From the *Amer. Jour. of Insanity*, Vol. LVIII., No. 3:

1. RECENT ADVANCES IN PSYCHIATRY AND THEIR RELATION TO INTERNAL MEDICINE.—DR. STEWART

PATON: to-day the psychiatrist in the United States is in a position similar to that in which Vesalius found himself when, owing to the unfavorable conditions that existed at home, he was obliged to carry on his work in a foreign country. In Europe, the psychiatrist has been given great facilities to educate himself by the state. In Germany, Switzerland, France and Italy, the progress in the study of psychiatry, when judged by standards as rigid as those by which the work of other departments of medicine is estimated, in no way suffers by comparison. In the United States, the standard of the internes of asylums for insane is much below that found among the internes in general hospitals. In asylums, much more frequently than in general hospitals, professionally incapable men are appointed and retained. A pleasant personality, combined with a pitiful lack of enthusiasm in matters relating to the observation of patients and the study of their symptoms, is too frequently considered a more essential qualification in a resident physician than is the possession of even moderate professional attainments. Unquestionably, part of the dread which people often exhibit in sending members of their families or friends to a hospital for the insane has some foundation in the distrust entertained by

physicians in regard to the professional capabilities of the resident staff. This fear will not be removed until the same standard of efficiency for medical work is established in our public or private hospitals for the insane as that now demanded in the general hospitals. The resident physicians tire of the clerical work imposed on them and also lose all interest in their cases. The cases should be studied individually and a thorough understanding should exist between the pathologist and the ward physician, if good results are to be obtained in psychiatry. The present policy in the asylums is penny-wise and pound-foolish, hindering the progress of psychiatry.

2. HALLUCINATIONS AND ILLUSIONS.—DR. GEORGE T. TUTTLE: The results of an examination of 500 insane cases at the McLean Hospital (222 men and 278 women), show that 189 (77 men and 112 women) had hallucinations or illusions of some sort. Expressed in figures, this amount reached 37.8 per cent. Munson reports 28.5 per cent. in 1339 cases. Lane reports 54 per cent. in 307 cases. In the majority of cases the hallucinations were those of hearing only; next in frequency came those of sight and hearing; after that, hallucinations of sight alone were observed. Illusions may become contributive agents in the formation of delusions.

Remarking on the popular conception of spiritualism and similar doctrines, the author says that the false and exaggerated ideas which characterize the beliefs of the adepts of those doctrines are largely based on psychological phenomena that can be verified by experiment. The hallucinations and illusions that come to those subjects, while in an emotional condition, under the influence of suggestion and expectant attention, are afterwards perpetuated by habit. This seems to be the reason why so many persons, who attempt to investigate spiritualism, become believers.

Seashore says that hallucinations and illusions of all the senses could be induced in trained observers working in the laboratory, sometimes even in spite of efforts to guard against them by giving the observers warning. In experiments intended to show the perception of heat, an apparatus was used in which a wire was heated by an electric current. It took an appreciable time for an observer to perceive the heat, and he was then expected to say "hot." Several trials were made and the time taken. Then, unknown to the observer, the trial was repeated without the current. After the usual interval he almost invariably perceived the heat, although none was generated. Visual hallucinations can easily be produced, as is also shown by experiment. A blue bead, two or three milli-

metres in diameter, was suspended in front of a black background. The observer walked toward it until he saw the bead; he then announced the distance at which he stood from the bead; a tape on the floor indicated that distance. After ten trials, the bead was taken away without his knowing it, and as he repeated nearing the place from which he had perceived the bead on previous occasions, he announced that he saw the bead. About two-thirds of the persons thus experimented on had hallucinations of sight. "They knew when and where they should see the bead, and that was sufficient to change the mental image into a realistic vision." Similar results were obtained in experiments on all senses. These hallucinations are undoubtedly due to suggestions and expectant attention. Dr. Seashore remarks that if a scientific observer can thus be led on by auto-suggestion, there can be no limit to the mental fabrications of excited and imaginative persons, who find themselves under circumstances favorable to the creation of illusions. It can only be supposed that the factors favoring the production of illusions are due either to supersensitiveness or to overexcitation of the sensory centres or to decreased inhibition. A decreased degree of attention leads on to the onset of those abnormal phenomena.

3. NOTES ON THE HEBREW INSANE.—DR. FRANK. G. HYDE: The Hebrew, as a class, is hysterical and neurasthenic, as reported in medical literature. These patients were chosen from the total number of admissions, 17,135 (from Dec. 13, 1871, to Nov. 30, 1900, inclusive), at the Manhattan State Hospital, East. When at large, these patients generally live in conditions of physiological misery. The influence of hospital life is very beneficial in their cases, the recovery rate being good, when the subjects are under the age of 30 years. The male Hebrew only is here examined. Of the total number of admissions as stated, 1,722, or 10.05 per cent., were Hebrews. Examining the patients from the date of the opening of the hospital, there are found 72 Hebrews who give histories of syphilitic infection; expressed in proportion, that number amounts to 4.18 per cent. of Hebrew admissions. This figure is low and shows that the Hebrews suffer less from this disease than do Gentiles. Of the 1,722 cases admitted, 95, or 5.516 per cent., had a history of alcoholism. This figure is also low.

In order to compare these figures with some of more recent date, a tabulation was made of the cases admitted during the five years ending Nov. 30, 1900. There were 3,710 admissions during that time, of which 573, or 15.44 per cent., were Hebrews. This shows an increase of Hebrew admissions as compared with the figures

above cited. Of these 573 cases, syphilis was present in 5.58 per cent. and alcoholism was present in 5.24 per cent.; paresis was present in 18.05 per cent. This latter form of insanity, while it exists in a large percentage in the Hebrew race, is probably not as high as the percentage obtained among the Gentile patients. Dr. Savage stated in a discussion that in his experience paresis was a disease not frequent in occurrence among the Hebrews, either men or women.

4. TRAUMATIC ENCEPHALITIS.—DR. HENRY P. FROST publishes a case of traumatic encephalitis that was accompanied by severe mental symptoms and epileptic seizures. The man was in perfect health when he received a blow on the head. Headache and epileptic attacks were the most prominent symptoms at first; mental disturbances set in later and the patient died after one year's illness caused by this accident. A thorough microscopic examination was made of the brain. The base of the brain was the seat of apoplectic lesions; the temporo-sphenoidal lobes were the seats of cerebral softening; microscopically, other basal centres showed degeneration of a hemorrhagic nature. The convulsions and mental symptoms were directly due to basal lesions.

5. A REVIEW OF THE PATHOLOGICAL WORK DONE IN THE HOSPITAL FOR THE INSANE AT INDEPENDENCE, IOWA.—According to the report published by Dr. Gershm H. Hill, the methods of investigation, pathological and psychiatric, in the Iowa Hospital, are most modern and progressive.

6. THE PATHOLOGY OF INSANITY.—DR. LOUIS PETTIT: A report is made of 56 autopsies performed at the Manhattan State Hospital, East. The results are tabulated, and some remarks are made on the pathology of insanity. In conclusion it is said that the symptoms of general paralysis are undergoing a modification; the delusions of grandeur are becoming less frequent in occurrence and dementia seems to prevail as a clinical manifestation. Some cases seem to show tendencies towards self-limitation.

7. A CASE OF IDIOPATHIC INTERNAL UNILATERAL HYDROCEPHALUS WITH RECURRENT HEMIPLEGIC ATTACKS.—DR. WILLIAM CHARLES WHITE: The patient was a colored woman, 74 years of age. In 1882, she was admitted to the Central Indiana Hospital for Insane, suffering from maniacal excitement. She was discharged in 1887, and was readmitted in 1891, suffering, as previously, from periodic spells of maniacal excitement. In November, 1900, she had an attack of hemiplegia,

from which she recovered in 4 or 5 days. She had several such attacks subsequently, and it was thought that she suffered from cerebral embolism. The last attack was apoplectiform in nature; she fell to the ground, and when reached by an attendant she was aphasic. Right hemiplegia set in on the following morning, urinary incontinence and difficulty in swallowing complicating the disease; right hemianæsthesia also took place. The patient died, during this attack, from exhaustion caused by persistent diarrhoea. The autopsy revealed the presence of an extensive dilatation of the left lateral ventricle; hydrocephalus was the cause of the dilatation.

RESEARCHES IN THE COMPARATIVE GLOBULAR RESISTANCE IN THE AGED NORMAL AND INSANE SUBJECTS.—DR. GIULIO OBICI concludes from his experiments that: the average globular resistance of the blood in normal subjects remains within normal limits until the age of 70. A minimum resistance is characteristic of the advanced stages of senility. Insanity of purely senile nature has no characteristic effect on the changes of the blood corpuscles. An augmented average globular reaction may be found to exist in certain diseased conditions of physical nature; an increased amount of young red cells accounts for that phenomenon. In melancholiacs of the age of involution there is a decrease of globular resistance (*Rivista di Patologia Nervosa e Mentale*, Vol. VII., fasc. I.)

A CONTRIBUTION TO THE LOCALIZATION OF THE MOTOR NUCLEI IN THE SPINAL CORD OF MAN.—DR. ALEXANDER BRUCE publishes the results of microscopic examinations of various sections of the spinal cord, showing by illustrations that the cellular dispositions in the cord seem to be systematic; this he demonstrates by the fact that in cases of *réaction à distance* the affected areas are constant according to the abolition of function caused by either atrophy or amputation of given muscles. The article is illustrated schematically, and the works of recent dates bearing on the subject are considered. (*The Scottish Medical and Surgical Journal*, Vol. IX., No. 6.)

DISTURBANCES OF VISUAL PERCEPTION, SYMPTOM OF EPILEPSY. — PROF. RAYMOND, examining a case in his clinic, called attention to a variety of disturbance of visual perception met with in epileptics; these sometimes complain of not seeing well, whereas, in reality they do see, but simply suffer from impaired visual perception: the gaze is vacant, but when asked to

read, the patients can do so, although insisting that their sight is impaired. In such cases, epilepsy should be suspected; bromide treatment is always beneficial when epilepsy can be traced. The second clinical case was that of

SURGICAL STUMP HALLUCINATIONS. — After an amputation above the elbow, of the hand and forearm, the patient suffered from imaginary severe pain in the absent hand. When the stump was pricked with a needle, pain was felt in various absent fingers, according to the part pricked. Squeezing of the absent hand also caused the patient pain. He was perfectly healthy and had a negative history. (*Journal de Medicine Interne*, Feb. 1, 1902.)

A CASE OF URÆMIC POLYNEURITIS.— DR. CROCQ reported this case, saying that the affection was due to uræmic intoxication; although the patient had worked in a copper factory, the disease should not be attributed to metal poisoning, because its onset dates from a time long after the patient had left this occupation. According to Dr. Raymond, the etiology of multiple neuritis comes under the headings of intoxications, auto-intoxications and infections. (*Bulletin de la Societe de Med. de Gand*, Dec., 1901.)

TWO CASES OF EPILEPSY TREATED BY TREPHINING, WITH THE FORMATION OF A FLAP BY KOCHER'S METHOD. — DR. I. CH. DZIRNE publishes these cases in *Chirurgia*, stating that one patient has been an epileptic since childhood, having from two to four attacks weekly and also being crippled. Trephining was performed on the right side, and the patient recovered the use of his left limbs; after the operation the attacks occurred in slight form and once a month. In the second case there had been from three to four attacks daily for four years preceding the operation; after the operation the attacks had disappeared completely. (*New York Med. Journ.*, March 1, 1902.)

A CASE OF ACQUIRED DEAF-MUTISM.—The case is reported in the *Medical Press and Circular*, by MAYO COLILER. The patient, a girl nine years of age, began to lose her hearing when three years old; the disease progressed steadily and when seen by the author the child was absolutely a deaf-mute. It was found that in each ear there was an occlusion of the canal by a thick mass of cerumen that lay in close contact with the membrane. After removal of that hard mass, and the use of a Politzer bag for a certain length of time, the child's speech and hearing improved;

while still under treatment, she could repeat some verses uttered by her mother, whose lips were purposely hidden from view. (*Medical Record*, March 8, 1902.)

CRETINISM. — DR. WALTER SANDS MILLS publishes a case of cretinism, that set in when the patient was 4 years of age. The case was neglected until she was 21 years old, when a physician administered to her thyroid treatment; this was followed by improvement; but when the treatment was suspended there was a retrogression in her condition. The author calls special attention to the fact that the suspension of the treatment was always followed by bad results, the patient losing the mental as well as physical improvement derived from the treatment. The thyroid gland may be implanted, and when absorbed, the operation should be repeated; the gland may be given by the mouth, or the various extracts of the gland may be used. (*New York Med. Jour.*, Feb. 22, 1902.)

THE PHYSICIANS' STRUGGLE AGAINST ALCOHOLISM. — DR. H. TRIBOULET says that the present ineffectual struggle against alcoholism is due to the indifference shown by the physicians, who, above all others, should show more energy in this matter than is expected of the layman. Of some 20,000 physicians in France, only 500 are listed among the members of the anti-alcoholic movement. The main reason for indifference among the physicians is the fear of ridicule. In order to bear fruit, this struggle against alcoholism should be entered into by all physicians; a medical temperance society should be formed, to which all physicians of good faith in this matter should belong. As for their present good faith, there are 4 or 5 medical deputies or senators who have openly declared themselves in favor of bringing war on alcoholism; the remaining 42 medical senators and 53 medical deputies show their indifference in the matter. To paraphrase Piron, one might say that "they are 95 with a conviction as if they were 5!" It is true that the revenue from alcohol is 500 million francs annually, but the income is obtained at the precious expense of the national moral and physical welfare. The sale of alcoholic beverages should be limited, the leading physicians should head the anti-alcoholic society and pamphleteering on the dangers of the abuse of alcohol should become general. (*Gaz. des Hopit.*, Feb. 15, 1902.)

PNEUMOCOCCUS ABSCESSSES OF THE BRAIN. — M. BOINET adds two cases of pneumococcus brain abscesses, which are rare in occurrence, there being about seven such cases recorded.

Abscesses of this nature are generally multiple ; when the abscess is a single one it generally affects the left hemisphere. As a rule, these abscesses are consequent on an attack of pneumonia, the cerebral infection taking place either during the stage of hepatization or during that of resolution. Men are more frequently affected than women, and those of middle age are more liable to suffer from this disease ; Reimer, however, recorded such a case in a child 6 years of age. In the author's case the cerebral abscess existed two months, causing epileptiform attacks ; death followed when the abscess opened into a cerebral ventricle. Trephining should be resorted to as soon as the diagnosis of cerebral abscess is made. The cerebellum may also be the seat of pneumococcus abscesses, although they rarely occur without the cerebrum being affected at the same time. The author cites a personal case of cerebral and cerebellar abscesses that followed a chronic and neglected otitis media. (*Gazette des Hospitaux de Toulouse*, Jan. 18, 1902.)

THE CEREBRAL LOCALIZATIONS. — At the meeting of the Societe de Biologie, Oct. 26, 1901, M. PITRES made some remarks on a case reported, at a preceding meeting, by M. Dieulafoy ; in that case, Jacksonian epilepsy had been caused by a lesion outside the motor area. This case does not shake the doctrine of cerebral localization. As the case in question is one of a cerebral tumor, one should be cautious in drawing conclusions from the symptoms caused by it, as the symptoms are necessarily many and varied, depending on pressure and irritation, making it difficult to properly interpret the symptomatology. Charcot cautioned clinicians against drawing any conclusions in similar cases, so far as cerebral localization was concerned, saying that no positive physiological deductions could be made in such cases. M. Champinierre remarked that a case like the one in question could be of diagnostic value if trephined : the motor area would have been found hyperæmic, and this would have been a point gained in the defence of the doctrine of cerebral localization. The patient would have been benefited by the operation, as the hyperæmia would have been relieved and specific treatment could subsequently have been employed. (*Progres Medical*, Nov. 16, 1901).

We learn with much regret that the *Revue de Psychologie Clinique et Therapeutique* ceased to exist after its December issue of 1901. It was as bright as well as an instructive publication, and we can only express our sympathy with its able editors in having found it necessary to bring the existence of this periodical to an end.

LARYNGEAL, CEREBRAL AND AURICULAR SYPHILIS CURED BY SPECIFIC TREATMENT.—PROF. H. DESPLATS

publishes this case. The patient presented herself for treatment of the throat, she having completely lost her voice. Tuberculosis was at once suspected, but a closer examination revealed the fact that the cicatrices on the vocal cords were distinctly of syphilitic nature, and besides, there was ophthalmoplegia with ptosis; there was also deafness. The history obtained from the patient was wanting in information that could confirm the diagnosis, but specific treatment was instituted. The relief of the symptoms was noticed a few days after the beginning of the treatment, and the sight and hearing were completely restored within the course of two months. The author surmises that besides a gonmata of the oculo-motor nerves, there were also lesions of the Eustachian tubes; the patient, indeed, claimed to have had ringing in the ears. She was treated by a specialist for a year without benefit, as he did not think of administering specific treatment. (*Jour. Des Sciences Medic. De Lille*, Feb. 1, 1902).

1. INTESTINAL TUBERCULOSIS OF THE INSANE. — At the January meeting of the *Paris Academy of Medicine*, DR. LANDOUZY analyzed the work of MM. Anglade and Chacreaux, in which the fact is pointed out that intestinal tuberculosis is very frequent among the insane housed in large numbers. There is a great question of contamination to be considered in this respect, which, up to the present time, has passed unnoticed.

2. At a meeting of the *Neurological Society*, M. Duval related a case of a cerebral traumatism caused by the discharge of a bullet from a revolver. The missile entered the skull at the region of the right temporal, 6 centimetres above the tragus; after a period of 18 hours of coma, the patient presented a left brachial monoplegia, sensory and motor, and difficulty in articulate speech as well as in deglutition. An operation was performed and pieces of splintered bone of the inner table of the skull were removed. By means of the "X-ray" light it was found that the bullet had lodged in the left side of the cranial cavity. Although there was destruction of a large area of brain tissue, the patient was rid of the symptoms above related, as soon as the surgical wound had healed. (*Gazette des Hopitaux de Paris*, Jan. 16, 1902.)

APHASIA. —At a meeting of the *Societe de Biologie*, Oct. 26, M. TOUCHE presented the brains of three subjects who had suffered from aphasia; the insula was the seat of lesion in every case; such lesions seem to play an important role in aphasias, the author stated. (*Progres Medical*, Nov. 16, 1901).

LUMBAR PUNCTURE FOR CEPHALALGIA.—DR. R. C. CARRIERE: In applying the treatment, the nature of the disease must first be determined. Lumbar punctures were practiced by the author in 4 cases of tubercular meningitis, which were accompanied by unbearable headache. In the last case, the headache constituted the first symptom of the disease. Variable amounts of liquid was drawn in these cases, by making lumbar punctures. In all the cases, the liquid spurted out with force and was of normal consistency. The headache was relieved as soon as the liquid had been drawn. In two cases, there was no remission of the headache, while in the other two the headache reappeared, but it was of less intensity.

Lumbar puncture was also practiced in a child, 3½ years of age, suffering from acute hydrocephalus and severe headache. The liquid came out under marked pressure, 120 cc. being drawn. The child calmed down and stated that it felt free from the headaches. The trouble reappeared in the course of 48 hours, and a second puncture was made, 100 cc. of liquid being drawn. The headache disappeared, only to reappear three days later. As the third puncture was being practiced, the child died in a marked convulsive attack. Seventy cc. of liquid was drawn.

A lumbar puncture was made in a child who suffered from marked headaches caused by empyæma of the frontal sinuses. The liquid came out drop by drop, to the amount of 20 cc., but no relief was thereby obtained.

In two cases of uræmia with intense headache the results of the puncture varied; in one case, only a few drops of fluid came out, and the patient was not relieved; in the second case, 90 cc. came out under marked pressure, and the cephalalgia definitely disappeared, the patient making a good recovery.

In one case, of presumable cerebral tumor, the operation gave negative results; this was also the case in one instance of anæmia and in two cases of cephalalgia during adolescent growth.

Negative results were also obtained in one case of migraine, while another case showed immediate improvement when 50 cc. of fluid was drawn.

In another case, which was considered as being one of hysterical meningitis, relief was obtained after the withdrawal of 30 cc. of fluid.

It is concluded that cephalalgia may be divided into two classes: cephalalgia with normal tension and cephalalgia with high cerebral tension. In the latter case the withdrawal of fluid seems to be beneficial, and may bring about a final cure; repetition of the operation may be necessary in some cases. Where the tension is

normal the results are negative. (*Le Nord Medical*, March 15, 1902).

A CASE OF EPILEPTIC PSYCHIC DISTURBANCE AND MORBID IMPULSES DURING THE EPILEPTIC STATE.

—DR. A. EBERSCHWEILER: An epileptic patient manifested morbid impulses to cut the clothes to which she had access; this impulse generally overtook her just before or immediately after an epileptic attack. As she destroyed a large quantity of clothes by cutting them with an instrument, the case came up for legal consideration. She admitted that she was perfectly conscious of her deeds and that she remembered having committed them. (*Aerztliche Sachverst. Zeitung*, VIII., No. 6. 1902).

XIVTH INTERNATIONAL CONGRESS OF MEDICINE, Madrid, 23-30 April, 1903. Active preparation are being made for the XIVth International Congress of Medicine to be held at Madrid, April 23-30, 1903.

The Spanish Minister of Foreign Affairs has sent out invitations to all Governments, asking them to delegate their representatives; the various medical schools and Societies have also been similarly invited. The Secretary of the Congress has received, up to this date, the names of 85 delegates.

Necessary steps have already been taken to secure reduced railroad and steamship rates.

Members are asked to join and send in the subscription fee at the earliest possible moment. The membership fee is 30 Pesetas, and checks for that amount should be addressed to the Secretary of the Congress, University of Madrid, Spain.

The various sections in medicine will be as follows:

1—Anatomy (Anthropology, Comparative anatomy, Embryology, Descriptive Anatomy, Normal histology and Teratology). 2—Physiology, Physics and Biological chemistry. 3—General pathology, Pathological anatomy and Bacteriology. 4—Therapeutics and Pharmacy: a, therapeutics; b, medical hydrology; c, pharmacy. 5—Internal medicine. 6—Neuropathology, Mental diseases and Criminal anthropology. 7—Pediatrics. 8—Dermatology and Syphilography. 9—General surgery: a, surgery and surgical operations; b, urology. 10—Ophthalmology. 11—Otorhino-Laryngology. 12—Odontology and Stomatology. 13—Obstetrics and Gynecology. 14—Medecine, Military and National Hygiene. 15—Hygiene, Epidemiology and Technical sanitary science. 16—Legal medicine and Toxicology. (*Progres Med.*, March 15, 1902).

THE SEVERING OF THE VASA DEFERENTIA AND ITS RELATION TO THE NEUROPSYCHOPATHIC CONSTITUTION.—DR.

H. C. SHARP: The influence of degenerate heredity is far reaching and can be found not only among the insane and criminals, but also among geniuses. Chatterton, Goldsmith, Burns, Steele, Coleridge, Charles Lamb and Cowper rank among the descendants of such heredity. Coleridge's father was an opium eater, and he himself had psychic stigmata of degeneracy. Some geniuses however, had healthy heredity (Aristotle, Bacon, James Watt, Addison, Thomas Arnold, Macaulay and Mme. de Stael. John Adams, the second American President, and his descendants for a number of generations were distinguished persons). Morbid heredity seems to be a powerful factor in increasing and perpetuating criminality and insanity. In 1850, there were 6,737 criminals in the United States, or one to every 3,442 of the population; while in 1890, the penal population is shown to be 83,329, or one to every 957 of the population. These show the proportion of the criminal subjects only. If all dependents were considered, such as inhabit public and private insane hospitals, almshouses and institutions for the feeble-minded, we should find the proportion to be in the neighborhood of one to 300 of the population. The human species alone, among living creatures, supplies such a high percentage of invalid members; in the animal kingdom, the criminal subjects are destroyed by their equals. We should lessen the propagation of criminal and insane subjects by rendering them sexually impotent. Dr. F. Hoyt Pilcher, superintendent of the Asylum for Idiotic and Imbecile Youths, of Kansas, castrated 47 of his inmates and alleged to have thereby obtained a marked physical and mental improvement of the patients; one case he considers as particularly benefited, as he is at large now and gains his livelihood as a farm-hand.

The author prefers to employ a different method with the same end in view: he suggests as a simpler method that of ligating the vasa deferentia. He performed this operation in 42 patients, whose ages ranged from 17 to 25, and he is quite positive that mental and physical improvement resulted therefrom. A case is cited as being typical. He advises that the legislature be urged to enact laws restricting marriages in undesirable instances and empowering medical heads of institutions to exercise their art with a view to lessening the possible descendency of invalid subjects. (*New York Med. Journal* March 8, 1902.)

TWENTIETH CENTURY METHODS OF PROVISION FOR THE

INSANE.—Dr. Frederick Peterson, addressing the State Conference of Charities, at New York, gave a historical sketch of the methods employed for the treatment of the insane. The latter part of the XIXth century was characterized by the establishment of Asylums for the insane, as contrasted with the chain and dungeon system of the preceding era. The XXth century is marked by a further and more progressive movement in behalf of the insane; in the United States, attempts are being made to provide for the acutely insane in psychopathic hospitals, and colonies are advocated for the housing of mixed cases and the chronic insane. In Europe, these methods are partially realized, especially so in Germany. Much stress is laid on the necessity of doing away with the large asylum structures and of building cottages in their place. The excessive herding of patients in the large asylums is considered detrimental to their recovery. The cottage system is more conducive to intimate relations between attendants and patients; this is an important factor in the matter of recovery. Emergency

hospitals for the reception of the insane should be founded in New York and Brooklyn; at present, there are many instances of insane cases being taken to police station houses before they are placed in the insane pavilions.

Discussing the theories advanced by Dr. Peterson, Dr. Carlos F. MacDonald said that he did not endorse the idea of small psychopathic hospitals in the cities, as better curative results are to be obtained by treating such cases in the country. He also objected to a strict division of acute and chronic cases: the patients become discouraged when aware of the fact that they are considered chronic cases, and from an administrative point of view it is convenient to have the chronic cases do work in the wards for the acute patients. He also objected to the movement in favor of relieving the asylum superintendents of the business administration of the asylum, because medical men make good business men as well.

Tubercular cases are isolated in tents in the Manhattan State Hospital. The training schools for nurses in the various State hospitals are a success; last year 187 trained attendants graduated from the schools.

The State institutions for the care of the feeble-minded and epileptics are: Syracuse State Institution for Feeble-Minded Children, accommodating 550 subjects; Newark State Custodian Asylum, 460; Rome State Custodial Asylum, 550, and Craig Colony for Epileptics, 840; total, 2,400. There are 1,642 feeble-minded and epileptic subjects maintained in various almshouses in the State; there are some 5,257 additional feeble-minded, idiotic and epileptic subjects scattered throughout the State, in various orphan asylums and other institutions not adapted for the treatment of those cases. The importance of providing suitably for the cases considered may be more vividly realized when we are informed that in the Syracuse Asylum 23 per cent. of the feeble-minded women have given birth to children before admission to the Institution. Practical recommendations were made with a view to lessening the propagation of the feeble-minded; proper sequestration was suggested as being the most effective measure. The discussion was finally concluded by some comparative considerations regarding the care of the insane under the "Wisconsin System" (county care of the chronic insane) as compared to the State care, practiced in New York; a historic sketch was then given of the Institutions for the mentally defective, who were sentenced for crime. Auburn was the first Institution, in New York State, erected in 1855; Matteawan followed in 1892, and Dannemora was the last one built.

The State of New York has invested for hospitals, plants and equipments for the insane, upwards of twenty-five million dollars; the support of the hospitals involves an annual expenditure of from five to six million dollars.—(*Amer. Jour. of Insanity*, Jan., 1902.)

THE DEATH OF GOETHE. HIS DESCENDANTS.—Analyzing the work of Goethe, in "Pathologique dans Goethe," by Dr. Moebius, Dr. Paul Cornet says in part: The poet suffered from nervous affections at various times. He died in a delirious condition, March 22, 1832. His descendants were pathological subjects; it seems that the Evil one wished to "make up" for the extraordinary happiness which gratified the great man, the author remarks. Mme. Goethe, the poet's wife, is considered first. She was an orphan, born of an *alcoholic* father. As she had lost her parents when a child, she had to work for her living, and was employed in a feather factory. She was beautiful, a good housekeeper, but very sensual and passionately fond of dancing; to gratify this inclination, she frequented the

students' balls. She then acquired an *immoderate taste for wine*, according to her hereditary predisposition on the paternal side. She died when 52 years of age, from alcoholic epilepsy; uræmia is also claimed to have been the cause of her death. She married Goethe in 1788 and gave birth to a son, named August, in 1789. In 1791 she gave birth to a second male child, which was *still-born*; in 1793 a girl was born, who *died* 10 days later; in 1795 a third son was born who *died* 15 days later; in 1802 a girl came into the world *still-born*. The only child surviving, August Goethe, was handsome and well-developed but he early acquired a taste for *alcoholic drink*. In 1817, he married Otillie de Pogwitch, and the union was an unhappy one; the young wife was a *degenerate*, excessive, unstable and phantastic. The young alcoholic husband led a sad existence and died when 40 years old; there is some mystery regarding his death, as various causes are said to have ended his life; among those mostly admitted are: Syphilis, scarlatina and apoplexy, following a cerebral lesion, due to progressive paralysis. The record of the autopsy states that his liver was three times the usual size. Rumor has it that he *committed suicide* in Rome.

There were three children born from this unhappy union: Walter Wolfgang, in 1818; he was undersized, sickly and died of pulmonary tuberculosis, in 1885. Wolf, the youngest, born in 1820, was ungovernable, phantastic, although serious minded and secretive; he was sickly, suffering from rheumatism, general physical debility and asthma; he died during a spell of this latter illness, in 1883. A girl, Alma, was born in 1827 and died of typhus fever, in 1844.

CONCLUSIONS: The author of "Pathologique dans Goethe" gives no new information by telling us that genius borders on the pathological. Credit should be accorded him, however, for the conscientious analysis of psychological and psychiatric questions relating to the poet's works. Dr. Moebius's enterprise in such work, relating to great men, should be emulated by others. (*Progrès Medical*, March 15, 1902.)

A HISTORIC CASE OF TELEPATHY: PRESENTIMENT OF HENRI HEINE'S DEATH BY ONE OF HIS FRIENDS.—The *Gazette Médicale de Paris*, March 15, 1902, commenting editorially on the psychological phenomenon commonly called telepathy, says that in the case of Heine and his friend, M-me Selden, between whom an intimate friendship and sympathy existed, the manifestation may easily be explained on scientific grounds. M-me Selden was devoted to the poet; it is a known fact that people who are devoted friends generally have an intuitive knowledge each of the other's physical condition. It is quite natural, therefore, that M-me Selden, who eagerly watched over her friend during his last illness, should have *felt* that his strength was waning and that death was impending. According to her memoirs, she had a presentiment of his death on the very morning he died, although she was away in her own house, quite a long distance from the place where he died.

She describes her presentiment as follows:

"Near eight o'clock in the morning, *I heard a noise*, resembling that produced by the movements of the wings of a butterfly. I opened my eyes, but shut them again: *a black form*, resembling a giant insect, writhed before me."

She hurried to the bedside of Heine, and on arriving there found him dead.

The transitory visual and auditory hallucinations in this case, the author remarks, are perfectly compatible with the frame of mind of this intellectual and highly nervous person.

GENIUS AND WORK.—From the various records relating to great men we generally learn that they were incessant workers. Thus, Victor Hugo's grand-son is said to have related, according to the *Gazette des Hopitaux de Paris*, that the poet and novelist never ceased working; his bed was so arranged that he could work, without leaving it, at any hour through the night; there were books and references at hand, on shelves around the bed, so that economy of time could be practiced and work accomplished.

BOOK REVIEWS.

VORLESUNGEN UEBER DIE PATHOLOGISCHE ANATOMIE DES RUECKEMARKS.—UNTER MITWIRKUNG VON DR. SIEGFRIED SACKI, NERVENARZT IN MUENCHEN HERAUSGEGEBEN VON HANS SCHMAUS, A. O. PROFESSOR U. I. ASSISTENT AM PATHOLOG. INSTITUT IN MUENCHEN. MIT. 187 TEILWEISE FARBIGEN TEXTABBILDUNGEN. VERLAG VON J. F. BERGMANN, WEISBADEN, 1901. The subjects treated of in this volume are: Secondary degenerations of the spinal tracts, general consideration of the nerve cells,—their reaction and degenerative forms; general consideration of the degeneration of the nerve fibres; tabes dorsalis, degeneration of the nervous motor system, circulatory disturbances of the spinal cord, acute myelitis and other forms of myelitis, complex degenerations of the spinal tracts, traumatism, concussion, tubercular and syphilitic diseases of the spinal cord; developmental and congenital defects, syringomyelia and tumors of the spinal cord. Wherever the subject requires, a thorough description of the histology, embryology, physiology, pathology and schematic representation of functions of the elements of the spinal cords are given; a profusion of excellent illustrations by uni- as well as by multi-colored plates of the highest possible grade enhance the value of this volume. The thoroughness with which this text-book has been presented cannot possibly be improved on. The volume embodies the fruits of many years of sincerest scientific research in the pathology of the spinal cord, the latest discoveries in the study of this subject being presented. It

is, without any doubt, the most valuable work on the spinal cord known to-day. The text contains 589 pages; 25 pages are taken up with a bibliographical index and a thorough index to the subjects treated of takes up 30 pages. The author deserves the sincerest congratulations on this splendid achievement.

SOUDEBNAJA PSYCHOLOGUIA. — VLADIMIR SERBSKI, Privat-Docent, University of Moscow. M. S. Sabashnikov, Moscow, 1900. Prof. Serbski does not need any introduction to the medical public; he has made his name familiar to every psychiatrist as a thorough clinician. The present volume is the second edition of his complete course in psychiatry, delivered at the University of Moscow. He entitled his work "Legal Psychiatry," because he treats of mental diseases in their relation to legal medicine. A good part of the volume is devoted to the study of the psychology and psychiatry of the special and the general senses and the judgment; a classification of the mental diseases follows and the second part of the text is taken up with individual psychiatry, hypnotism from a medico-legal standpoint, and simulated insanities. It is a handsome volume of 481 pages and a translation of this would be a valuable addition to our literature on psychiatry.

RECHERCHES CLINIQUES ET THERAPEUTIQUES SUR L'EPILEPSIE, L'HYSTERIE ET L'IDIOTIE. Comptendu du service des enfants idiots, epileptiques et arrieres de Bicetre, pendant l'annee 1900. Bourneville. With the collaboration of Drs. Crouzon, Dionis du Séjour, Izard, Laurens, Paul-Boncour, Philippe and Oberthur. Volume XXI, with 19 figures and XI plates. Progres Medical, or Felix Alcan, Paris. Dr. Bourneville is increasing, from day to day, the valuable clinical, psychiatric, macroscopic and microscopic studies of the cases treated at the Bicetre Asylum. Every report, which he publishes under the above mentioned title is replete with scientific studies which he directs and to which he contributes himself. The value of such reports cannot be overestimated in the domain of psychiatry, where all knowledge rests on the completeness and thoroughness of the individual histories obtained. Every history is carefully kept and every anatomical specimen is duly placed in the Anatomical Museum of the Institution. Students and psychiatrists find valuable material in these histories and the corresponding anatomical specimens. This volume should be particularly perused by superintendents of Hospitals for the Insane, who have

not, thus far, succeeded in introducing a thorough method of systematic study of the degenerate. The report contains a detailed account of useful pedagogic methods for the treatment of the degenerate and numerous illustrations, both of anatomical specimens and of practical methods in vogue at the Bicetre asylum. The volume contains 236 pages.

MONOGRAPHIES CLINIQUES, 29. LES PONCTIONS RACHIDIENNE ACCIDENTELLES et les complications des plaies penetrates du rachis par armes blanches sans lesions de la moelle. Dr. E. Mathieu, Masson, et c^{ie}, Paris. The principal results of this study are the following: 1, penetrating wounds by cold arms of the spinal column, without lesions of the spinal cord, are not dangerous; when uncomplicated, the wounds tend towards spontaneous healing; 2, vertebral lesions (osteo-periosteal and osteo-articular) have a serious effect on the course of the disease; 3, in the first variety,—congestive meningeal complications are to be feared; in the second, when the bones are involved, purulent complications may take place and even extend to the brain; 4, the duration of the disease is uncertain, but antiseptic treatment is of the greatest value and is aided by the flow of the cerebro-spinal fluid, which washes off the infected parts; 5, difficult complications arise from implications of the anterior part of column, where treatment cannot be directly applied; finally, 6, vascular disturbances are apt to cause trouble, if they set in.

LA MIGRAINE et son traitement. Dr. Paul Kovalevsky. The causes, clinical course and prognosis of migraine are considered in detail. The author admits, with other neurologists, that heredity plays an important role in the causation of this disease, but he is not a believer in the fatalistic consequences of such agencies as heredity; his experience leads him to believe that rational treatment is of great clinical value in these cases.

CONGRES INTERNATIONAL D'ANTHROPOLOGIE CRIMINELLE. COMPTE RENDU des travaux de la cinquieme session tenu a Amsterdam, 9-14 septembre, 1901. Edited by Professor J. K. A. Wertheim Salomonson, general Secretary of the Congress. The volume has 529 pages of original contributions to the science of criminal anthropology. Coming from the pens of the leading psychiatrists, jurists and anthropologists of the day, these contributions, grouped in one large volume, are of inestimable worth to the scientist. The editor of this important work deserves particular credit for the handsome appearance of the report.

L'ETAT MENTAL DES PARRICIDES. Etude Medico-Legale. These de Bordeaux. Dr. G. Asselin. Conclusions: 1.—crimes like parricide and other grave violences against parents are comparatively frequent in occurrence. According to Lacasagne, these crimes furnish 1/37 of all the crimes of assault; 2.—the parricides are almost invariably degenerates; the degree of degeneracy in these subjects is often so apparent that one may say, with Dr. Regis, that the crime of parricide is a crime of a degenerate; 3.—the most important psychic stigmata of degeneracy in these subjects are impulsiveness and lack of affection; alcoholism, epilepsy and delirii in these subjects may act as accessory agents in the process of effecting such deeds; cupidity often seems to be the only cause of this crime; but in reality this is only an exciting cause; degeneracy is the fundamental cause; 4.—of 63 cases of parricides examined by the author, 30 were adjudged insane and are inmates in asylums; a large number of those condemned for the crime were granted commutation of sentence and only 6 of these subjects were sentenced to capital punishment; this fact proves that the degeneracy of the act is self evident even to those who are not psychiatrists; if more careful investigation of this subject were made, there would be more of them sent to the asylums and less would be condemned to imprisonment or capital punishment; 5.—special asylums should be founded for degenerates of this character.

BOOKS AND PAMPHLETS RECEIVED.

Prof. P. I. Kovalevsky. EPILEPSIA, YEIA LETCHENIE I SOU-DEBNO-PSYCHIATRICHESKOYE ZNACHENYE. 3d edition. Akinfief and Leontief, St. Petersburg.

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION, 57th annual meeting, Milwaukee, Wis., June 12, 13, 14, 1901.

Dr. Alfred Fuchs. ZUR FRAGE NACH DER BEDEUTUNG DER REMISSIONEN IM FERLAUFE EINZELNER FORMEN VON ACUTEN PSYCHOSEN.

Dr. L. Cappelletti. IL TRATTAMENTO FAMIGLIARE DEI MALATI DI MENTE.

Prof. Paul Kovolevsky. EPILEPSIE, TRAITMENT, ASSISTANCE ET MEDECINE LEGALE. Vigot freres, 1901, Paris.

Dr. William Littleton Robins. EINE STUDIE UEBER POST-AMTSVERBRECHER.

Dr. Moriz Infeld. BEITRAEGE ZUR KENNTNISS DER KINDER-PSYCHOSEN.

Prof. Serge Soukhanoff. CONTRIBUTION A L'ETUDE DE LA MALADIE DE KORASAKOFF. Un cas de polynevrite avec psychose polynevritique post-typhoidique.

Dr. Heinrich Stern. ON THE TREATMENT OF OBESITY.

Drs. Cappelletti and A. D'Ormea. LA DIETA IPOCLORURATA NELLA CURA BROMICA DELLA EPILESSIA.

Dr. P. Serieux. LA STATISTIQUE DES ALIENES DE CANTON DE ZURICH.

CONGRES INTERNATIONAL DE L'ASSISTANCE DES ALIENES ET SPECIALEMENT DE LEUR ASSISTANCE FAMILIALE. Anvers, 1-7 Septembre, 1902.

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No. 5.

A CASE OF TRANSITORY APHASIA DUE TO TRAUMATISM.

BY PROF. G. FASOLA, Royal University, Cagliari, Italy.*

Although the classic works of Broca, relating to the localization of the centre of speech, were followed by an accumulation of statistical cases, which has shed some light on the subject, our knowledge of the question still remains insufficient; our knowledge is particularly deficient in regard to the understanding of the complexity of speech disturbances and that of the anatomical distribution and relation of the centres which govern speech. The data furnished by surgical cases become, therefore, most valuable and are carefully studied and collected.

In the references at my disposal, I have been able to find only two cases in which surgical interference was followed by more or less durable disturbances of speech. Both are described in *Chirurgie opératoire du système nerveux*, A. Chipault, tome II, Paris, 1895, and I shall mention here only those points, which have a bearing on our subject.

Case 23, page 697.—Drs. Mitchell and Keen. Extirpation of the Gassirian ganglion in a subject 41 years of age, to relieve a painful tic of 13 years' standing. The operation was performed in October, 1893. "While the middle lobe was being lifted, a considerable hemorrhage took place, which necessitated tamponing and a delay of the operation. There was no shock; during the following few days, there was slow respiration; a slight degree of aphasia, although the tampon was applied on the right side; the painful spells persisted. The tampon was carefully removed three days after, and the operation was successfully completed."

Referring to the results, it is stated: "The patient left the sick-bed, and the wound was healed; the aphasia diminished rapidly. Cure."

Case 39 p. 706. Dr. Roberts. Intracranial neurotomy of the 2d and 3d branches of the Vth, immediately behind the Gassirian ganglion; man, 76 years of age; neuralgia of old standing of said branches.

The operation was performed Nov. 5, 1892. Eighteen days after the operation: It was noticed that the patient could not give the name of the city nor that of the hospital physician; it is, no doubt, an aphasic phenomenon, although very slight in degree."

*Simultaneous publication in the *Rivista Sperimentale di Freniatria*. The exact date of publication in Italy is not certain.

It is not mentioned on which side the operation was performed, but the following is mentioned in the description: "as the brain was being lifted in order to expose the two branches, it was noticed that tonic and clonic convulsions were taking place in the left hand; these disappeared under moderate pressure." This would indicate that the operation took place on the right side.

I am indebted to my obliging colleague, Prof. Biondi, who was director of our surgical clinic, for having been enabled to study the case of C., on whom he performed a partial resection of the left Gassirian ganglion; the craniectomy was done after Krause-Hartley, and the patient recovered, having suffered from a transitory aphasia, which was caused by the operation.

The patient was 66 years of age, a native of Cagliari, who had suffered, during a period of 14 years, from facial neuralgia that had not yielded to any treatment. The unbearable suffering decided the patient to undergo the operation.

THE OPERATION.—I shall give Biondi's (1) description in part. On opening the skull, the temporo-sphenoidal lobe bulged out, making a resistant hernia; at first, it seemed that the reduction would be quite a difficult operation. Gradual compression was brought to bear on the bulging mass, which lost in resistance as it was being manipulated; during the operation it showed imprints of the instruments applied in the process of reduction. The two branches of the Vth nerve were cut through and part of the ganglion excised. The wound was closed and one end of a scant iodoform dressing was left protruding from the anterior angle of the incision. The operation lasted two hours.

1.—MOTOR, TACTILE AND OTHER PHENOMENA.—Before entering into the details of the case, I wish to say that after the operation patient was promptly relieved from the neuralgic pain (Dec. 21, 1897), from which he had suffered during a period of so many years. The dressing was taken out on the second day, and nothing unusual was noticed about the patient. On the third day, C. sat up in bed, was cheerful and took his meals properly.

Dec. 26, five days after the operation, Prof. Biondi found the wound in good condition,—almost entirely closed. The areas supplied by the 2d and 3d branches of the left trigeminal, however, presented anæsthesia; externally, the cutaneous surface was involved, and internally, the gums, the corresponding halves of the lips, the palate and the left side of the tongue were affected. Posteriorly and externally distribution of the anæsthesia of the 3d branch differed from the usual; the tactile sensibility was present in parts of the masseteric region, on the tragus, on the most ante-

1. Biondi. Giustificano i risultati le operazioni intracraniche sul trigemino?

rior part of the pavilion and the external auditory canal. The anæsthetic zone of the 2d branch extended over the lower lid, the nostril and the upper lip. The anæsthetic zones were also marked by analgesia. There was no trophic disturbance of the corresponding eye or elsewhere.

The tip and anterior margin of the tongue presented a disturbance of the gustatory sense.

During the following few months, the disturbances of gustatory, tactile and pain sensibility gradually disappeared (July 11).

2.—APHASIC DISTURBANCES.—The first aphasic signs were noticed the first day after the operation, when the patient could not be examined. The disturbance increased gradually during the first week, and then remained stationary until the end of the first month. During the latter part of January and the first part of February, considerable improvement took place, and complete recovery seemed to exist at about the 15th of that month, the trouble having lasted altogether a little over two months. The patient was examined again in December, 1898, and in the summer of 1899, but no traces of the aphasia could be found.

When the aphasia existed, the patient, although in perfect mental condition, and having always had a good memory, could not recall the name of his wife, those of his children, son-in-law, familiar persons about him, nor that of Prof. Biondi, who was his physician. January 7 (18 days after the operation), he conversed with his wife at length, but could not recall the names of their children (present there, or absent). He also found difficulty in naming things (a clock, cigar, chair, pillow, handkerchief, key, head, or the name of the city in which he lived, etc.). Some weeks after the operation, he could speak spontaneously without making mistakes, but now and then he stopped suddenly, expressing on his face some feeling of anxiety, as if he were searching for a word; this was always a name of some person or a noun; but when the name was suggested to him, he seemed to be well pleased, repeating it without difficulty and continuing his conversation. He soon became aware of the defect of speech from which he was suffering, and tried, on examination, to hide his difficulty, by making attempts to elude some questions. Finally, at one time, he did not recognize familiar names when pronounced before him. When asked whether he knew Prof. Biondi or other familiar names, he could not remember whose names these were. In order to be certain that he had understood the question well, he was called into the office and was asked to give the name of his physician. He could not give the name, but said several times "*the one who is in charge here, the one who operated on me,*" etc. When shown a chisel, he promptly said that

it was a carpenter's tool, indicated for what purpose it was used, but could not name the metal of which the chisel was made. The window in the room was pointed at, and he was asked to say how it was called. After some hesitation, he said that he *knew exactly what he wished to say, but that he could not find the right word, the necessary word.*

To sum up the condition, 1,—during the entire course of the disturbance, the patient could understand everything that was said to him and could respond properly and without hesitation. 2,—during the first three weeks, when the disturbance was most marked, he had difficulty in remembering some words, while others he could not remember on some occasions, although he did on others, excepting during examinations by the physician. 3,—during the entire course of the disease, even when it was most marked, the patient could repeat perfectly well, on hearing them pronounced, the names of people and objects which he could not remember spontaneously.

During the second period of the affection, when the aphasic disturbance was somewhat attenuated, the patient could be made to recall the names which he wished to use, when we insisted that he make an effort for that purpose, or by describing the person or object, whose name he could not recall. Thus, he was made to recall the names of his children, or of the nurses, by having described to him their appearance, occupation, or the time and circumstances when he had seen them. He was made to recall the word "key," after it was put into the key hole and turned inside of the lock; an inkstand was shown to him and he could not name it; he called it a dish, a bowl or a salt cellar; but when a pen holder was put in his hand, he promptly dipped the pen in the stand, showing thereby that he had recognized the object and knew for what purpose it was used; he then gave the proper name.

At times, he substituted words, which had no bearing on the answer. Thus, when asked what he had eaten at dinner he said *roast tobacco*, instead of roast veal. On another occasion, he wished to ask someone in the ward to hand an egg and bread to someone in the corridor, and he said, instead, give him the *chicken and pork*. He called a handkerchief a *tumbler*, although he was told the right name of the object; when shown a cigar, he examined it for a long while and after he had tried anxiously to recall its name, he finally said that it was a *bag*. He also suffered from gustatory anæsthesia.

3.—SYMPTOMATIC DIAGNOSIS.—The scarcity of such cases reported does not warrant the making of a positive symptomatic diagnosis. In this case there were three, out of eight, symp-

tomatic elements to be considered first: 1, *the ability to understand spoken language*; 2, *the spontaneity of speech*, and 3, *the ability to repeat words pronounced for him*.

There was nothing abnormal regarding the first and third points; the second, on the contrary, was imperfect, as the patient could not remember the names of subjects and objects and as at times he substituted wrong words. Five more points, which are generally examined in such cases, regarding the expression of speech by reading and writing, were of negative value here, as the patient could read and write only with much difficulty (2).

Regarding these other five symptomatic elements, they were as follows:

4.—UNDERSTANDING OF WRITTEN OR READ LANGUAGE.—On examining the words Biondi, sun, bread, wine, healthy and sick, he understood their meaning. 5. SPONTANEOUS WRITING.—Asked to write his Christian name, surname and the name of his country, he wrote them spontaneously and with some facility. 6, READING ALOUD WRITTEN LANGUAGE.—Considering his instruction, he could read and pronounce with ease the written words shown him. 7, WRITING UNDER DICTATION, he wrote Chiara (the name of his wife), table, hand, etc., although with the aid of spelling the words, syllable by syllable. 8, COPYING WRITTEN LANGUAGE.—For the reason given above, this test is not of much value; he succeeded, however, in copying some words which were not too long.

In order to confirm the value of the results of these five tests, the patient was examined in the same manner in 1898 and 1899, over a year after the disappearance of the aphasic disturbance, and the obtained results were quite identical to those above mentioned.

It is to be regretted that no examination was made, with a view to discovering aphasic disturbances, before the operation was performed. Regarding the symptomatic form of the aphasia, it was evident that the patient suffered from an impaired or annihilated

2. It is now generally admitted, and for good reason, that true agraphia can take place only in subjects, who have acquired the faculty of writing automatically; thus, he must write with a spontaneity similar to that with which he speaks; his written language should no more constitute a *translation of spoken words*, but should be a language strictly independent, special. Therefore, we should not expect to find instances of true agraphia except in subjects who, through long habit, have acquired the faculty of expressing their thoughts in writing in a way similar to that in which the deaf-mutes express their ideas with gestures, corresponding to sounds, unknown to them. True agraphia may be said to exist only when the subject has, previous to the onset of the affection, learned to express his ideas in graphic tracings, which correspond to sounds, and which do not occupy the attention at the moment when they are being expressed in writing.

transmission of the images of spoken words. As has been related above, the psycho-motor function was perfectly normal, but the patient could not remember some words,—proper names and some nouns; at times, when insistence was used, he could be made to remember words that eluded his memory at first.

Aside from this amnesic aphasia, the patient also suffered from another form of aphasia,—paraphasia; it was mentioned above that at times, during the course of the disease, he substituted words which had absolutely no bearing on the word which he should have used instead. I should formulate, then, the conditions as follows: the patient suffered from *partial amnesic aphasia of transitory nature with some traces of paraphasia*.

ANATOMICAL DIAGNOSIS OF THE SEAT OF LESION.—From the defects found in the psychic speech in this case, it is evident that some of the numerous speech-centres were affected; especially the centre presiding over the *voluntary expression of spoken language*. We must, therefore, determine which of the numerous cortical centres or their communicating tracts were affected. In doing this, we must not lose sight of the primary lesion which, to all appearances, was the starting point of the trouble. It will be useful for our purpose to utilize some of the known schemas, which represent the graphic explanation of the various and complex disturbances of speech (3).

3. It is evident that such schemas should be considered in connection with other centres than those which they represent, as the general mechanism of speech is governed by various centres,—the general auditory and visual centres, etc., which have a special localization. We should bear in mind, however, that the value of the schematic explanation is only relative, either as a representation of clinical cases, or as a scientific demonstration. Clinical experience shows that a strict analogy between actual cases of aphasia and schematic representations of the same is a rare occurrence, as the clinical forms are generally accompanied by an impairment of a marked complexity of elements which are involved under such circumstances. It is unreasonable, for instance, to assert that a subcortical lesion, adjacent to the verbo-auditory centre U (fig. I) would intercept the fibres UI exclusively, without impinging on the fibres UM or UV. To this must be added the fact that a lesion of a given centre here is generally accompanied by impairment of tracts that connect it with other centres. Finally, it must be borne in mind that in making up a schematic representation of the relation of anatomical centres, we leave out their important correlations with psychic centres, which also enter into play as important factors,—those of sensory perception and of memory, for instance. Furthermore, while some centres are anatomically located, others, quite as important in function, are not (tactile, muscular sense, etc.); it is not even known, whether these centres, in man, are generalized or circumscribed. The difficulty presented by such cases is still more evident when we admit that our knowledge of the correlation of even the well localized centres is rather vague; and, finally,

Whether we consider Lichtheim's schema, Fig. 1—or Fig. 2, published in Charcot's *Traite de Medecine*, etc., in which the representation of some of the centres approaches the actual relation on the cerebral cortex, the following indications apply to either:

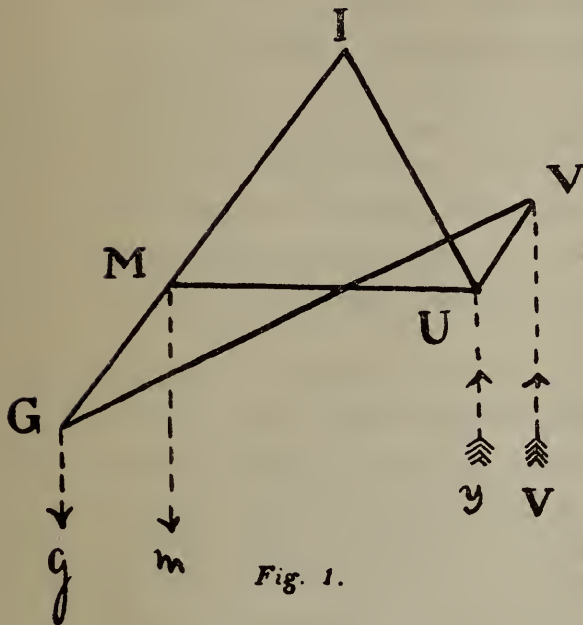


Fig. 1.

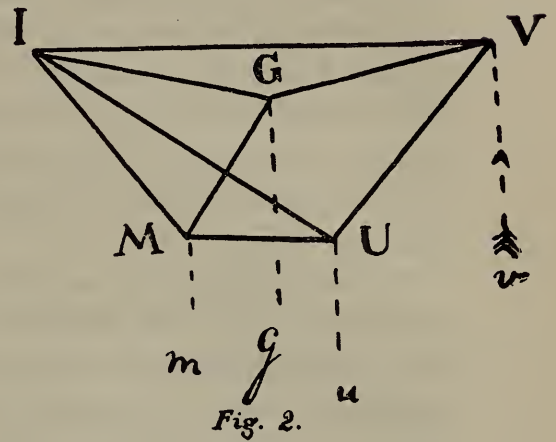


Fig. 2.

V, centre of visual verbal images (verbal blindness). Postero-inferior left 2d parietal.

U, centre of auditory verbal images (verbal deafness). Middle of the left 1st temporal.

M, centre of images of articulate movement (motor aphasia). Foot of the left 3d frontal.

G, centre of graphic movements (agraphia). Foot of the left 2d frontal.

I, symbolic ideation (intelligence of speech). Frontal lobe?

A.—CENTRES.—I shall commence with the consideration of the verbo-visual centre V, or centre of reading (graphic mnemonic images of speech), which is located in the postero-inferior part of the 2d left parietal, or in the so-called gyrus angularis; we may well exclude the supposition of any lesion here, for the reason, as has been explained, that the patient did not suffer from verbal

the most important of the centres, those of ideation, destined to synthetize the images received by the other centres, which are said to exist as distinct units, are not well known to us, although we locate them in the frontal region. These considerations show the insufficiency of our knowledge of the subject, which we even demonstrate in schematic tracings; these can have only a certain value as guides in analytical researches, when other methods, more potent, are wanting.

blindness: he could read with a facility proper to his education; also because some time after his recovery, this condition was unchanged.

The same may be said regarding the *grapho-motor centre* G (memory of graphic movements), which is localized in the left 2d frontal, and a lesion of which causes *motor agraphia*; our patient was free from agraphia. I pass, therefore, to the consideration of the centre of *articulo-motor* images, M (Broca's centre), which is located in the inferior part of the left 3d frontal convolution; the lesion of this centre may be excluded in our case, because the presence of such a lesion causes *motor* or *ataxic aphasia*; our patient's speech was prompt, his pronunciation was perfect; when reminded of the words which he forgot, he pronounced them equally well with the others.

It may happen, as recorded in the cases of Ballet and Boix (*Traite de Medecine de Charcot, Bouchard*, etc, page 121), that a very limited lesion in Broca's centre will cause a partial motor aphasia, limited to a certain group of words, such as nouns in general, or verbs; but in such cases, the pronunciation of these words is impossible, so long as the lesion lasts; and when these words are suggested, they cannot be repeated, because, as is known, the faculty to repeat spoken words is wanting, on account of such a lesion.

In our patient, the faculty to read loudly and to write spontaneously or under dictation was preserved, but it would have been absent in case of a lesion as above suggested.

I shall finally consider the *verbo-auditory* centre U (auditory mnemonic images of speech), which is located in the left 1st temporal, extending perhaps to the 2d temporal; a lesion of this centre would cause *verbal deafness* or *sensory aphasia* of Wernicke; our patient was free from that form of aphasia, as he always understood everything that was said to him and answered every question put to him; besides, other indications of having been free from verbal deafness are: his faculty to repeat spoken words, his ability to understand written language, to read aloud and to write under dictation. We must admit, therefore, that the centre considered was intact.

We may suppose, nevertheless (and with good reason), that the impairment of the centre and adjacent tracts was so slight and circumscribed that verbal deafness did not take place, even in a minimum degree: the verbo-auditory images, which are latent in some way in the cellular elements, are not lost, so long as there is no severing of the conducting fibres between the centre of speech and the more or less diffuse centre *I*, which presides over the ideation of speech, or the centre of symbolic ideation. In this way,

spoken words, which could reach the verbo-auditory centre of the patient, could still excite corresponding auditory images, which, in their turn, would be transmitted and understood in the centre of ideation.

It is just as legitimate to suppose here that the histological or dynamic alterations, which affected some of the cells of that centre, were too slight in degree to interfere with the formation of auditory images, more or less intense, corresponding to the sensory stimulus of spoken words; but that they were sufficiently pronounced to interfere with the process of evoking spontaneous voluntary expression, in some instances, without the potent aid of sensory impressions.

Applying the above reasoning to the patient here considered, we can clearly understand the rôle played by a weakened intensity of formation of verbo-auditory images, corresponding to some nouns and proper names; the decreased abundance of those images in the centre of verbal ideation, on the one hand, and in Broca's centre, on the other, was conducive to an interference, during voluntary spontaneous speech, with the finding of the desired word, and the latter could not be pronounced. When the interlocutor came to his aid, however, pronouncing the words loudly, the new stimulus was then strengthened by the sensory auditory impulse and excited the weakened imagination, or, if preferred, created it temporarily, so that the centre of ideation, when having all the necessary elements for the purpose of its synthesis, was able to transmit its product to the mnemo-motor centre of speech.

With the above conditions, it is clear how and why the patient retained the faculty to repeat spoken words, to write, and to read loudly as well as to write under dictation; whereas these faculties are always impaired when the lesion is somewhat marked and extended in the audito-mnemonic centre. In all such cases, the *immediate sensory stimuli* (auditory or visual) always come to aid in reviving and re-enforcing the impaired intensity (caused by the somatic lesion) of the old audito-mnemonic images.

It should be remarked that in cases of verbal deafness, there is always present a certain degree of paraphasia and paraphagia; the first of these existed to some extent in our patient, as was mentioned. On comparing the degree of the aphasic and the paraphasic disturbances of the patient, it becomes evident that both were represented proportionately,—in correlation with the very limited interruption between the cerebral centres.

B.—THE ASSOCIATION FIBRES.—I have made a detailed comparative analysis of the possible lesions of the four mnemonic centres: verbo-visual, grapho-motor, articulo-motor and verbo-

auditory (cortical forms). I must now consider the possible lesions of the *association fibres*, which unite those centres, and lesions which are apt to bring about four fundamental varieties of aphasia: forms of conduction, or transcortical, or intercentral aphasia of Wernicke, Lichtheim, Dejerine, and others (4).

If we recall that in our patient the disturbances of spoken and written speech were only marked by his forgetting some nouns and proper names, but that he could pronounce them promptly on hearing them pronounced, we may exclude from consideration the centripetal conducting fibres, vV and uU and the centrifugal conducting fibres Gg and Mm.

We shall now consider the intercentral association fibres; we may well exclude from analysis the tract VG, VU and VI as well as GI; but we must consider the circuit formed by the tracts UIMU, which represents the reciprocal relation of the centres of verbo-auditory images,—those of articulate movement (of Broca) and the centre of ideation of word symbols.

In all probability, there was no lesion in the path UI; for, as is known, an interruption in this path leads to an impaired understanding of spoken and written language, which was intact in our patient.

A lesion in the path IM, would cause a disturbance in voluntary speech and writing, leaving intact all the other functions of speech as well as the faculty for repeating words spoken by others; such a lesion may be considered as having *possibly* existed in our case, but it certainly was not sufficiently marked to cause an absolute interruption of the association fibres; on the contrary, it was slight in degree and only partial. *Aphasic amnesia* is the term applied to the disease characterized as above,—when a patient cannot find the right word, but can repeat it when it is told him.

We must not forget, in connection with that hypothesis, that our patient could write spontaneously without any trouble; and above all, we must bear in mind that the more or less marked symptoms relating to the amnesia were all connected with a slight disturb-

4. I must remark here that there exists, undeniably, a *partial equivalence* between a lesion of a cortical centre and that of its association fibres. It is evident that a destruction or impairment of a certain group of cells of a cortical centre is expressed only by a relative equivalent of effects produced in the corresponding association fibres, in their relation to other centres and to the periphery; and vice versa, the interruption of a given tract of fibres, which constitute a prolongation of a ganglionic nerve element, would be equivalent to a destruction of the latter, if such a lesion severed its connection with the intermediary nerve elements. In a word, the apparent distinct difference between a cortical or nuclear lesion, and that of the association fibres, has a very relative value.

ance, which involved some points in the speech conductors, or—the paths in the circuit UIMU; also, that other seats of lesion, more directly exposed to the traumatic action, could have brought about similar amnesic phenomena.

In this connection, I wish to speak of the path UM; this tract associates the verbo-auditory centre with that of Broca. An interruption in this path should bring about, pre-eminently, paraphasic disturbances, without in any way impairing any other essential functions of speech. Repetition of words pronounced, reading loudly as well as writing under dictation, would not be possible without the ability to understand language; but voluntary speech could yet take place along a more round-about path UIM; hence, there would be a delay and difficulty in the formation and the transmission of the verbal images to Broca's centre; such, indeed, are the characteristic traits of amnesic and paraphasic disturbances.

When the path UM is affected only partially, then the patient cannot find the right words *only in some cases*: he can speak currently, but stops when he has to name some given objects; then, he either *does not succeed in finding the word* or else, *substitutes a wrong word*; if the word is suggested to him, he repeats it and may remember it during a more or less long period of time; it is known, as has been remarked, that the amnesic phenomena, and paraphasia which generally accompanies them, when there exists some lesion in the circuit UIMU, generally have reference to proper names and nouns.

It is evident that, as seen from the summary description, the disturbances must be due to a partial lesion of the path UM; such cases have been studied by numerous authors, and correspond exactly to ours.

Summing up our patient's case: the points affected in the circuit UIMI which best explain the disturbances are: the audito-verbal centre U (middle of the left 1st temporal), in a manner explained above, and, above all, the path UM, associating that centre with the one of articulo-motor images of Broca (foot of the left 3d frontal); Wernicke considers the island of Reil as the seat of articulo-motor speech, at least to a great extent.

NATURE AND CAUSE OF THE LESION.—We should exclude from consideration the question of infection or inflammation for two reasons: the aphasic disturbance appeared immediately after the operation, and there were no symptoms of infection at any time after the operation. With the absence of tangible causes, we are forced to resort to hypotheses. One of the first points to consider in this connection is the inevitable irritation and somewhat rough handling of the protruded part of the brain during the oper-

ation, which lasted two hours. It is quite certain that the irritation caused by the exposure to the air, the contact with the instruments, the antiseptic solutions and the repeated and marked applications of the tampon must have had some action on the delicate membranes of the brain as well as on the brain tissue itself (5).

Above all causes, however, we must look toward the induced disturbances of circulation; these were, most probably, prominently connected with the onset of the functional defects. A possible extra-dural hemorrhage might also be considered; but this supposition is hardly justifiable, as the end of the dressing that was left outside the wound would have indicated to some extent that an accident of that kind had taken place.

Undoubtedly, the pressure that was used in returning the cerebral hernia into the skull, in the beginning of the operation, was the cause of the immediate disturbances of the speech; the temporal lobe sustained this pressure from below upwards and from outward inwards; the postero-inferior part of the left frontal lobe suffered at the same time from that pressure. The reduction of the cerebral hernia was performed most skilfully and with as much care as possible, but the process was tedious and it was noticed that the instruments left imprints on the tissue as the act of reduction was in progress. It is evident that no small amount of pressure had to be exerted; the convolutions which suffered from this accident were: the three temporal, externally, the lower parts of the Rolandic, the third frontal and the whole of the insula which made its way from between the Rolandic folds; the anæmia caused in these tissues through compression of the Sylvian artery should be taken into account.

Repeated experiments as well as clinical cases have shown that nerve cells subjected to anæmia through compression promptly

5. I can confirm the truth of this supposition by some results obtained by me in experiments on dogs and cats; I purposely opened their skulls, with, much care, exposing the lateral part of the brain to view, without injuring the dura; the brains remained exposed to the air a little less than an hour; the instruments and dressing were also held in position and, besides, slight digital pressure was applied from time to time; an examination was made 24 hours later, and the dura was found injected, the cerebral tissue slightly œdematous on the surface and there were scattered punctiform hemorrhages.

Prof. Tito Carbone wrote to me about a man, who was operated on for resection of the Gasserian ganglion; the same method was used as in our case, but the patient died a few days after the operation, from pneumonia. At the autopsy, it was found that the cerebral area, where the traumatism was inflicted, was softened, slightly œdematous, and traces of numerous punctiform hemorrhages were scattered. This form of lesion is quite identical with the one which I obtained in animals.

manifest visible morphological alterations (6) ; it is natural to suppose that the pressure caused by the application of the instruments, which left their imprints on the tissues, should have had a marked effect on the nutritional function of those parts as well as on the distant neurones and the association fibres.

Capillary hemorrhages and capillary serous exudations might also be considered here.

In conclusion I wish to say that anatomical lesion, induced by marked and prolonged pressure of the left temporal lobe, was, in all probability, the immediate cause of the aphasic disturbance. As the main pressure was brought to bear on the middle third of the external and inferior surface of the temporal lobe, we may safely say that the localization of the lesions was as follows :

1. In the cortical and sub-cortical substances of the temporal lobe, especially in the middle third of the 1st and 2d convolutions, which were most exposed to the handling.

2. In the island of Reil.

It is evident that the compression of the Sylvian artery and its branches may have caused some lesions in distant parts ; one of such parts of interest to us is the 3d frontal, in its cortical and sub-cortical layers.

We remarked on a previous page that in our case the points of interest in the circuit UIMU were the verbo-auditory centre U (the middle part of the left 1st temporal) and particularly the path UM, which connects this centre with that of Broca, which is situated in the island of Reil ; we find, then, that our conclusions coincide, when arrived at from two different standpoints : 1, the consideration of functional activity, or 2, the correlative analysis of anatomical lesions ; our reasoning is correct even to the point of including the possibility of the involvement of Broca's centre ; or, still better, a slight disturbance (through the compression of the anterior branches of the Sylvian artery) in the connecting fibres between this centre and that of symbolic ideation.

6. Marked cellular alterations were found in the spinal cord after ligation of blood vessels for a period of 30 minutes.

STUDIES OF MORBID OBSESSIONS.

(*From the Moscow Psychiatric Clinic*).

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The clinical knowledge of morbid obsessions is as yet very limited; we shall analyze here the obsessions as we observed them in patients at the Moscow Psychiatric Clinic. We have studied for this analysis 12 indoor and 85 outdoor patients afflicted with obsessions. (1) These cases presented obsessions as individual affections, not as accidental symptoms of some other disease; we make this statement purposely, as we consider morbid obsessions individual psycho-neuroses, in no way differing from the individuality of epilepsy or hysteria. In our cases we make no distinct group of the cases which suffered from obsessional fear and imagination (phobias) as Freud does (2) as he admits that the varieties which he differentiates may sometimes come under one heading. From a practical standpoint, such a distinction is not only wrong but even impossible.

THE AVERAGE NUMBER OF THE PATIENTS AND THE DIVISION ACCORDING TO THEIR SEX.—Of the 97 patients, there were 76 men and 21 women. The ratio showing the relative number of men to women who suffered from the affection here considered is as 3.62:1; this proportion is undoubtedly high when compared with the ratio of men to women who suffer from general psychiatric affections; statistical data of the Moscow Psychiatric Clinic, covering a period of time to the extent of 12 years, fix the latter ratio as being 1.75:1. This fact is quite interesting, as women are the more numerous sufferers from another disease—

1. The histories of the out-door cases were studied by both authors, and the clinical histories were prepared by Dr. S. Soukhanoff.

2. *Revue Neurologique*, No. 2, 1895.

hysteria. Our figures relating to the question in point seem to differ from those furnished by Drs. Pitres and Regis, who stated at the XIIth International Congress of Medicine, that they had found the ration between men and women who suffered from obsessions to be 96:154.

OCCUPATION.—Division according to occupation furnishes the following figures: church employees, 8; tradesmen, 11; clerks, 11; men who work at home, 14; housewives of tradesmen and factory hands, 17; persons employed in the intellectual professions, 29; no information in 7 cases.

We do not undertake to make any positive conclusions regarding the influence of the various professions on the development of morbid obsessions; nevertheless, it is strikingly noticeable that the affection seems to attack, preferably, persons engaged in pursuits requiring intellectual concentration; among our male patients we did not find a single farmer, and in the common number of men and women we did not find a single one who entered under the heading "Domestic Service."

HEREDITY.—The influence of heredity has become a generally accepted factor in the production of psychic disturbances. Nevertheless, it seems to us that this influence should always be considered from at least two relative standpoints: 1. the *relative frequency* of heredity in connection with *given forms* of psychiatric manifestations; 2, the *degree* of hereditary influence in connection with the form of the disease. We shall illustrate these points with clinical demonstrations. Of 94 of our cases, 87 had histories of psychiatric heredity, and 7 of the patients were free from the same; expressed in concrete figures, the above given ratio shows that hereditary influence existed in 92 per cent. of the cases. As for the determination of the degree of hereditary influence, which is not an easy matter to analyze, we resorted to a simple guide, as will be seen below, in the detailed analysis in this respect of the 94 cases.

Seven cases disclaimed the existence of any psychiatric disease in their families;

Thirty-eight patients claimed to have from one to two relatives who were, or had been, afflicted with mental diseases;

Thirty patients claimed similarly from three to five relatives, and nineteen cases similarly claimed from six to ten relatives.

We assume that cases whose histories revealed that there were more than three psychopathic members in their respective families, may be considered as suffering from marked hereditary influence; as is seen from the figures cited above, more than half of our cases may thus be said to suffer from marked hereditary influence. When considering the question of heredity we took into account

alcoholism, nervous and psychopathic diseases of the members of the family (father, mother, and the nearest relatives—brothers, sisters, grandparents, uncles and aunts).

We made a further analysis of the histories with a view to defining the degree of hereditary influence, considering parental heredity only; we found that 88 of our cases presented heredity as follows: 7 cases had no history of heredity; 32 had morbid heredity on one side of the family and 49 cases had morbid heredity on the maternal as well as on the paternal side. We conclude, therefore, that patients subject to morbid obsessions bear the brunt of a heavy morbid heredity. Besides, a question presented itself for our consideration regarding the homogeneousness of the diseases of the parents and of their respective offspring. The figures which we obtained in this investigation show that 30 cases out of 94, or almost one-third, gave histories of homologous affections in their parents or relatives. Incidentally, we found out that the disease was most frequently transmitted from the mother to the son and least frequently, from the father to the daughter. Instances of frequent transmission of the disease from the mother to the daughter, and the father to the son were not as marked as was the reverse mode of transmission mentioned above. The following two cases are examples of inheritance of homologous diseases.

Case I. OBSESSIONAL IDEAS OF MOTHER AND DAUGHTER.—E. A. S., 33 years of age, came to Psychiatric Clinic Oct. 11, 1896. One sister, by another mother, suffered from *folie du doute* and died of pulmonary tuberculosis; another sister was an alcoholic and has suffered from some form of mental disease. The patient's occupation is her own housework. She states that the beginning of the disease dates seven years back. She noticed then that she was highly nervous and exacting; on finding some spot on her dress she felt considerably annoyed and so upset by the incident that she could not dress herself. Her punctiliousness was carried to extremes; she washed her hands at repeated intervals, even when there seemed to be no apparent reason for so doing; this propensity, however, she first manifested when she was 18 years of age. She feared that the dyes of materials that she touched would stain her hands, then be conveyed into her mouth and that in consequence of this her teeth would fall out. On touching any colored material she experienced some special sensation. Her obsessional fear of color became so marked that the mere passing through the streets and looking at the paint of the houses was a torture to her. She suffered, besides, from various other obsessional ideas: hearing of sounds, seeing of images and certain simple ideas enervated and annoyed her. A few years ago, while roll-

ing the house linen, she suddenly imagined that she had used a bottle instead of the rolling-pin. She knew that she was wrong; she could see her rolling-pin and she knew that she had not left the room and gone out to take the bottle, but she persisted in tormenting herself with this thought; she could not be reassured, although she could see that she was mistaken and could use her senses of touch, etc., which were perfectly normal. From that time on, she became a victim of doubts; no matter what she did, she inquired of everyone near her whether she had not made some mistake, etc. She then began to have fears that her eyes would be injured by broken glass; when looking at a pane of glass she feared that it would break and that some of the pieces of glass would penetrate into her eyes. She was so intensely beset with this idea that she imagined herself hearing continually a sound produced by breaking glass; this sound was so vivid to her that she called it "auditory hallucinations." At times, she was under spells of intense fear that she would be compelled to take medicine in a glass. So intense was this obsession that the mere thought of a physician's prescription immediately brought on the thought of the fatal glass. If she came across the word "medicine" in any book, she feared to touch that book afterwards, because it suggested to her the idea of glass. She also suffered from a number of other obsessional ideas.

On examination, the patient was found to be in poor health, suffering from endometritis and frequent hysterical spells. She says that she wakes up every morning with a feeling of marked lassitude, because she fears the act of dressing; while putting on her clothes, she has an obsessional desire to spill some kerosene oil, to break a pane of glass, etc. She dresses very slowly, as she is hindered in the progress of the act by various fears; she fears to comb her hair, is tormented with doubt as to whether the comb is in her hands, etc. When taking a cake of soap into her hands, she doubts that the cake is really there. At meals she fears to drink milk from a glass; she pours it out into a plate and sips the milk with a spoon. She is quite depressed mentally and often thinks of committing suicide, as she finds many hindrances in the performance of her daily work; she is afraid to use the sewing machine because the needle might break and some splinter of the steel get into her eyes; she is afraid to light a lamp or even to touch one. During the last one and a half years she has been busy writing up her own history; this occupation seems to quiet her to some extent.

The patient's daughter, a school girl, A. S., 14 years of age, is also subject to obsessional ideas and applied for treatment of this affection, Oct. 13, 1896. The mother states that the child showed the first manifestations of the disease when she was six years of age.

She was frightened when anyone touched her dresses or books; she suffered from great fear that she would lose her earrings; if the ears were covered by the head dress, she promptly disengaged them, fearing that otherwise the earrings would slip out from the ears; one and a half years ago she failed to pass her examinations, and came home, unable to speak; she lost her voice suddenly, and has been speaking in a whisper since that time. A laryngeal examination of the throat made by our specialist in this department showed that there existed a granular laryngitis, a vegetative adenitis, a swelling of the false vocal cords and hyperæmia of the entire throat. The cords are normal but do not contract properly during speech. She began to menstruate one year ago, but the flow is not regular in appearance. She still fears the possibility of her losing her earrings; she is considerably depressed mentally, and does not converse readily; she may have some other obsessions, but the one observed is her constant fear of looking untidy; she continually uses the comb trying to keep her hair tidy.

Case II. OBSESSIONAL IDEAS IN THE MOTHER AND SON.—B. S. T., 32 years of age, housewife. Her sister is subject to some mental disturbance and suffers from obsessional ideas; her father is known as being "odd" of conduct. The patient menstruated for the first time when she was 15 years of age; but some time before the onset of puberty she learned from her girl friends that the pelvic organs of women undergo some changes after marriage; this news impressed her considerably, and she soon became a victim of an obsessional fear that such changes would take place in her organs. Before she was married, her monthly flow was delayed on one occasion; she became greatly alarmed about the incident and feared that she was pregnant, although she knew very well that her fears were unfounded. Her obsessional ideas became more numerous after her marriage; after the first few days of married life, she began to suffer from an obsessional sensation of shame before her friends; she worried herself about the thoughts that her friends entertained in regard to her, and her health began to fail. This sense of unfounded shame caused her later some other and more marked inconveniences. Her first child was born some time ahead of that calculated by her when her confinement should take place; she consequently became beset with fear that her child was considered as being illegitimately born. When pregnant with her second child, she suffered from a fear that some man would force his way into her rooms and would dishonor her. This fear persisted during the entire period of lactation. Five years ago, after the birth of her third child, she began to entertain some doubts regarding the legitimacy of her marriage, as she imagined that she was related to her

husband; she therefore, decided to lead a single life; besides, she feared that she was filthy, that her clothes which she wore while leading a married life, were filthy. The obsessions seem to pivot about erotic ideas; she fears that her clothes, the table linen, the floor and other surrounding objects are soiled with sexual secretions; yet, her sexual appetite is altogether nil, and she has never had any excitement of that nature. Some of the other obsessional ideas are not less odd in character; when she bites off a piece of bread, she is worried with the thought that the bread is "divinity."

She benefited greatly by a prolonged stay at the Clinic, and on the date of her discharge she seemed very much improved. While at her home, she sustained a severe moral shock, however, and her disease again became marked; she re-entered the Clinic five months later.

THE SON OF THIS PATIENT.—The son of this patient 14 years of age, entered the Clinic in 1897, and asked to be treated for obsessions, which consisted essentially of erotic ideas and *folie du doute*.

Among our cases, we had two brothers and two twin brothers. We cite these cases below.

Case III.—S. N. B., brother of B., 18 years of age, came to the Clinic March 22, 1895. His mother had an attack of some mental disease, but recovered from it. The patient states that during the four years preceding his admission to the Clinic he began to suffer from a sensation of "cloudiness" in his brain. Lately, he became subject to annoyances from everything about him; he also manifested symptoms of *folie du doute*; when passing some object, he imagined that he had passed it in a wrong manner, returned to the starting point and passed the same object again. He also imagined that unless he would do certain insignificant acts some evil would befall him. He said, in a written account of his own disease: "I often have morbid ideas against which I have to struggle; I am, under those circumstances, like a slave, commanded by those ideas, although I am quite aware that this reasoning is absurd; it seems impossible for me to act independently and against them." He suffered from an obsessional sense of fear that he would be buried alive, that he was not clean, etc.

Case IV.—A. N. B., brother of the above patient, 15 years of age, came to the Clinic March 28, 1895; like his brother, he also suffered from obsessional ideas. In 1894 he began a course of business education. This included the study of penmanship, and he devoted a good deal of thought to the prospect of his accomplishing the undertaking. At first he only had obsessional mental representations of the appearances of his writing as a whole; but later on, these

became more and more circumscribed,—he tried to see mentally the appearance of sentences, then of phrases, and, finally, he became beset with the thought of the looks of individual letters; he feared that the letters looked crooked, “although any normal mind would find no fault with the configuration,” he says. His work was considerably hindered by these obsessions, although at time he succeeded in quieting himself. As a rule, however the worry thus occasioned causes him intense headaches and dizziness. For this reason, he conceived a dislike to handwriting and it became an effort to write. He even disliked the sight of the letters of the alphabet, and the letter “i” inspired him with a feeling of antipathy more than did the others, if that letter was not written as perfectly as he thought it should have been. He, therefore, devoted a great deal of time to the thought of perfecting himself in the art of tracing that letter masterfully. He also suffered from various doubts, fearing that what he had done was wrongly done; he also suffered from erotic ideas, etc.

Case V.—A CASE OF OBSESSIONS IN ONE OF TWO TWIN BROTHERS.—G. A. M., 13 years of age, a school boy, entered the Clinic Nov. 17, 1901. The father was an unbalanced man and it is supposed that he had committed suicide. The mother suffers from obsessions of doubt and is very impressionable. A maternal aunt and uncle had had attacks of some form of mental diseases. A paternal aunt committed suicide. One brother died of meningitis and another of tuberculosis. A sister, who suffered from tuberculosis, committed suicide. The patient is one of twins; the other twin brother seems to be quite normal in every way. Both were born at full term. Immediately after birth, it was noticed that our patient’s head was considerably larger in size than that of the other twin. Our patient began to walk during his second year, whereas the other twin began to walk much earlier. The teething also took place earlier in the other twin than it did in the patient. Our patient was more apathetic and less intelligent than was his brother when they were growing up, although the other twin was the weaker physically. Outwardly, there is also absent any resemblance between them, although there was a resemblance between each of the other children in the family. At school, the patient was not proficient and learned his lessons with some difficulty. When nine years of age, while he was playing with some children, he fell and hit his head against a stone; no outward consequences were observed, but he had a spell of vomiting which was followed by unconsciousness; on recovering his senses, he was restless, and shrieked and then became speechless for a certain length of time. From that time on, he seemed

more nervous; he became fearful and whining and avoided his comrades; he applied himself more assiduously to his studies and rapidly caught up with his classmates; he also became markedly vain. During the year preceding his admission to the Clinic, he began to suffer from an obsessional fear of being mocked. In the Fall of 1901 he had obsessional crying and shrieking spells, which generally lasted some 15 minutes. He explained that these spells followed some bad thoughts, which forced themselves on his mind, and that he feared divine punishment for having such bad thoughts. As these spells increased in frequency of appearance, the patient lost in body-weight, became melancholy, and slept badly and suffered from erotic ideas, of which he was ashamed to give any account. However, he told his mother that he was pursued by a mental representation of the figure of a naked man, exposing his genital organs to God, and that at one time he was beset with a mental representation of figures of a whole row of naked men. The child begged to be treated for his disease, as he feared that he would otherwise lose his mind. He feared divine punishment for having these ideas and he soon began to suffer from obsessional fear of graves; he had before his mind's eye a persistent representation of graves. He is most reticent when questioned about his erotic obsessions, but after some insistence on our part we succeeded in obtaining a statement from him; he said that in the mental representations of these figures of naked men their genital organs were more distinct in outline than were any of the other parts of their bodies. He suffers, besides, from *folie du doute*.

A point of interest in this case is the fact that the twin brother of our patient, whom he does not resemble in either the physical or the mental traits, is entirely free from obsessional ideas, whereas, it is a well known fact that twin brothers, who do resemble each other, generally both suffer from the same form of mental affection, when such an affection takes place; there are records, however, of cases where one twin has succumbed to psychic disease, while the other remained free from a similar disturbance. Cullere reported such an example in the *Archives de Neurologie*, Feb., 1901. Still, it were premature to state now that our patient's twin brother will always remain free from obsessional ideas; at times, the development of psychic diseases in twins is not synchronous. If, however, the healthy twin should never, during his life, manifest any morbid obsessions, the fact would only demonstrate the possibility of distinctly different psychic organization of twin children.

CHARACTERISTIC TRAITS OF SUBJECTS SUFFERING FROM MORBID OBSESSIONS.—Subjects suffering from morbid obsessions all have some traits in common. They

have uneasiness of mind, lack of determination and doubts, which generally begin during childhood and last throughout their lifetimes. The above named uneasiness constitutes the basis of obsessions, as it serves as a source of abnormal moods; these moods are seen in the manifestations of oddness of conduct, manners, shyness, rumination, inability to get along with people, tendency towards isolation, etc. As a rule, the indecision and doubts arise from heightened impressiveness and often from irritability. These subjects often resort to auto-analysis of their conditions and are therefore often preoccupied with thought. These patients seldom show any roughness or cruelty towards living things; if they are egotistical in their relation towards those near them, the fact is due rather to their lack of appreciation of their own oddness of conduct towards those people. On the other hand, those subject to obsessional ideas may suffer from remorse of causing trouble to their relatives or friends. Their obsessions are generally in contradiction to their moral dictates. A large number of those suffering from obsessions are also subject to hypochondriacal ideas. These subjects are also fearful of becoming insane.

THE ONSET OF DISEASE.—We find that the majority of cases manifest their disease before the age of 20 years; this was the case in 77 of our cases; after 20 years of age, the onset took place in 11 cases; we have no definite indications on this question in 9 cases. We may conclude, therefore, that the onset of obsessional ideas takes place at an early date in life. There is reason to believe that the date of onset is far earlier than the stated figures indicate it to be. It is very difficult to obtain any correct statements regarding this question, if the patient is of middle age when he presents himself for treatment. As a rule, the development of the disease is very gradual; in 89 of our cases, this fact was verified; in some cases, however, we obtained histories of sudden onsets; of such cases we find 7; in one of these, a man, the disease set in after an unfavorable change of surroundings; in 4 cases, women, moral shocks were the causes, and in 2 cases,—after childbirth; in 1 case no information was obtained.

THE COURSE OF THE DISEASE.—The course of this disease is very irregular: the obsessions vary in intensity according to circumstances. We shall consider the conditions most conducive to the development of obsessions of an intense degree. In women, the menstrual periods, gestation, childbirth and lactation seem to favor an aggravation of the disease. The period of puberty or that of involution are favorable moments for the onset of this affection. Various moral and physical disturbances may favor that onset; in some cases, however, there seems to exist no assign-

able cause. The influence of genesic evolution and involution is so marked that we do not hesitate to cite some illustrative examples.

Case VI.—F. B. S., 64 years of age, came to the Clinic Oct. 18, 1896. His mother is very nervous. Since he was 12 years of age, the patient has been subject to various obsessional ideas. When saying his prayers he generally had some erotic obsessions; he has always been noted for his doubts; there seemed to have been a decrease in the intensity of the disease, however, as he grew older, and he felt quite free from the obsessions when he was 15 years of age. He had no trouble of this nature until 8 months previous to his admission to the Clinic, when he again became subject to a large number of obsessional ideas. The present obsessions were of an erotic nature, and he lost much sleep from worry over his condition. He even attempted suicide on account of the unrest caused him by these thoughts. He was fearful that he would commit some forbidden and unlawful act. The sight of a knife impresses him considerably; on seeing the sharp instrument, he pushes it away; on the sight of the object he becomes upset in his mind, fearing he may commit some evil deed; he recognizes the fact that he is wrong in entertaining these fears, but he cannot change his condition by reasoning.

In one case, obsessions set in during an attack of cerebral syphilis, but disappeared, when specific treatment lessened the severity of the organic affection. This case is cited below.

Case VII.—O. A. A., 24 years of age, draughtsman. His father and mother are both nervous persons. Some six years before he came to the Clinic, he suffered from an acute urethritis, and one year ago became infected with syphilis. He says that when a child he suffered from various obsessional ideas: erotic, religious and other; he had obsessional fears that he would kill somebody, that he ran the risk of some danger unless he did certain things, which had no relation to his surrounding circumstances; for instance, he imagined that if he should fail to say a certain prayer, he would kill somebody; if he should fail to put his finger to the lower lip he would speak imperfectly, etc. The intensity of the obsessions varied with his physical condition, humor or even the weather. He came to the Clinic for consultation, at various times between 1897 and 1900. In 1898, he presented himself for treatment for cerebral syphilis (diplopia, hemiparesis, paraphasia, etc.), which yielded to specific treatment. When the cerebral affection was at its height, the patient manifested obsessional ideas of marked intensity, which were accompanied by spells of weeping.

MOTOR DISTURBANCES AND CHANGES OF CON-

SCIOUSNESS.—S. Freud (*Revue Neurologique*, No. 2, 1897) gave his opinion that there was an intimate relation between hysterical and obsessional manifestations. He considers *angstneurose* (which we do not differentiate from obsessional fear) as an equivalent of fear caused by worry and uneasiness (*Neur. Centralb.*, No. 2, 1895); he points out that 1, various forms of obsessional spasms cannot be differentiated from hysterical manifestations of a similar nature; 2, various forms of syncope cannot be differentiated either. We investigated this question, therefore, with a view to verifying the value of his statements. An examination of 97 cases gave us the following results: 1 was subject to epileptiform attacks; 3 suffered from dizziness; 5 (all women) had hysteriform attacks; 8 were subject to spells of syncope; in two of these cases, the onset of the syncopal spells were accompanied by obsessional ideas of fear; this fact confirms the opinion of Seglas (*Leçons Cliniques sur les Maladies Mentales*, 1895) that spells of syncope of obsessional nature are peculiar in the fact that the consciousness remains clear before and after the attack takes place, but that there is loss of consciousness during the attack. The fact that obsessional ideas are in some way connected with such spells of syncope should serve as a guide to finding the true clinical significance of these phenomena; the spells of syncope thus related to the obsessional ideas should not be looked on as simple accompaniments of accidental nature, but, on the contrary, as manifestations intimately related to the phenomena of the obsessions themselves. Jahmaerker's case (*Berl. Klin. Woch.*, No. 42, 1901) should be considered from the standpoint which we have just indicated.

SEXUAL ANOMALIES.—An examination of the sexual anomalies of our cases among the men gave the following results: In 1 case there existed an anomaly of that sense; in 4 cases there was exaggerated excitability; in 42 cases masturbation was noted and in 28 cases no anomalies could be found, or, rather, no mention was made of any anomalies; no information could be obtained in 22 cases. It is evident, from these figures, that obsessional ideas are frequently accompanied by sexual anomalies,—almost in two-thirds of the cases. We do not think that these anomalies are not dependent on the specific causes of obsessions, given by Freud; whatever the genesis of these anomalies may be in connection with the obsessional ideas, we are of opinion that they are symptoms of the disease here considered, rather than that they are its causes.

THE RELATION OF OBSESSIONS TO DEMENTIA PRÆCOX.—In the study of our cases, we gave particular at-

tention to the question of the relation of obsessions to dementia præcox. Although the cases that ended in precocious dementia were not numerous, there was, nevertheless, a sufficient number of such cases to attract our attention. We had only five such subjects, two of whom we could keep track of. We did not group these cases with the others. We do not wish to draw here any definite conclusions regarding the complexus of such clinical symptomatology, but shall simply relate such clinical manifestations as were observed by us; careful study of these complex diseases may help to elucidate the question in the future.

Case VIII.—S. K. E., 22 years of age, man, single, clerk by occupation. His mother is an illegitimate child and is feeble minded. The patient had a mild attack of small-pox, when a child. He was not bright at public school. His habits were regular and he did not indulge in spirituous drinks. When 20 years of age, he first became subject to obsessions: one of his friends had told him that he would be benefited if he were married; this idea made a profound impression on the patient, and from that day, during a period of three months, he practiced, against his will, the imaginary act of copulation. This obsession was followed by a series of others, which have persisted since that time. He was a victim of obsessional mental representations of graphic images of certain word; for instance, the words sky, wind, name, to look, hear, etc.; at times, the words were expressive of obscene meanings. He was worried also by the difficulty in explaining the meaning of God and that of man's existence; this inability caused him profound anxiety. Later, he found that he could not look straight at objects, and he imagined that he had some current in the left side of his head; he also felt impelled to look at objects from the left side. In order to rid himself of this trouble, he thought that if he had in his mind a representation of a figure resembling the Russian letter "g" his trouble would be remedied. This figure then became a new object of obsessional thought, as he could not rid himself of the mental image of this letter. He was treated at the Clinic during 1889-1890. During the last six months of his treatment, a new series of obsessions developed; he felt impelled to pass his left hand through his hair, turn his head towards the right side, tap with his fingers on the table, etc. While engaged in a conversation, he suddenly stops, performs the series of acts as described, then resumes the conversation at the point where he has left it off. At times, he imagines that the surrounding objects are in motion, that the left side of his face moves towards the left side, while the right side moves towards the right, that his eyes are covered with skin, that his legs are

longer than usual, that he is dead and that somebody impersonates him. He is quite depressed mentally and often thinks of committing suicide. He also shows some stereotypias; he assumes positions expressive of strenuousness of mind; besides, every noise, even that caused by the rolling of a ball on the floor, serves as a starting point for the appearance of a whole series of obsessional ideas. At times, he has spells of uncontrollable laughter. He is unfitted for any occupation, not even for simple reading or carrying on a simple conversation; the latter fatigues him quickly. He also has chills, now and then.

We received information after his discharge that he had ended by falling into a condition of dementia præcox.

Case IX.—Cr. N. B., 22 years of age, single, clerk, was treated at the Clinic during a period of six months, in 1887-1888. His father was an alcoholic, suffered from progressive general paralysis during a period of seven years and died of an apoplectic attack; a brother, who was also an alcoholic, suffered from melancholia and died of apoplexy; the mother and sister are suffering from headaches; a paternal aunt is insane. The patient had delicate health when a child and began to speak when he was three years of age. He was of normal mental condition, and was even considered brighter than is usual, until the age of 7 years. At that age he sustained a fall and was unconscious for some time, and there was some hemorrhage from the mouth. From that date, the mental development of the patient did not progress and he was unsuccessful at school. He had typhoid fever at the age of 13 years. At 15 years of age, he left school and engaged himself as clerk; this occupation kept him at work from 8 o'clock in the morning until 7 in the evening, and his health began to fail under the strain. During the six years following, his mental faculties seemed to become dulled and he became worried by obsessions. He tried to relieve his melancholic condition by using alcoholic drinks to a considerable extent. His disease progressed gradually, and he was finally discharged by his employers as an unfit subject. He suffered at that time with marked obsessional doubts: on leaving his seat, he looked about, trying to see whether he had not lost something; at times, he stopped in one place, immovable, absorbed in thought, during a period of some 30 minutes. When he had to leave the house he remained immovable for some length of time, before deciding to go out on the street. Two months previous to his admission to the Clinic, he stopped going out of the house and complained that there was something wrong in his head. He began to collect all sorts of refuse, although he knew

very well that the articles were useless; he had no power to resist making these collections, he said. On admission to the Clinic, he spoke rationally, recognized his pitiful condition of being governed by obsessions, but said that he could not help that, as he could not exercise his will power. While under treatment, he was considerably worried by doubts: on seeing any object he immediately became worried by the question as to its usefulness and could not calm himself until the matter was decided to his satisfaction; on hearing the slightest noise, he felt impelled to find out the cause of the same; on going to bed, he gets up some ten times, trying to convince himself that the lights are put out properly. The obsessions are very much more pronounced when he is alone; he is then depressed, slow of action if he is doing anything; in the morning, when dressing, he looks as if under some spell,—plunged in thought and melancholia; at intervals, he examines most carefully and very slowly every article of his dress, putting in about two hours in this act. Before leaving his room he meditates, as if not resolved to move ahead; he goes towards the door, comes back, and repeats the action several times, until finally he runs out of the room in a hurry. Towards evening he seems more master of himself, however. He is totally incapable of any mental exercise. His intellect showed signs of enfeeblement, and finally he developed hallucinations of hearing, sight and smell; he also suffered from unsystematized delusional ideas.

Case X.—D. A. A., 19 years of age, a peasant girl, house-worker, was treated at various times at the Clinic, during the year 1900. Her father is an alcoholic. During childhood, the patient had small-pox, measles and some other fever. When ten years old, she sustained some fright and remained melancholic during the following month. When 11 years old, she had a transitory attack of hallucinations of hearing, of a musical nature: she imagined that she heard some one singing. Five years before her admission to the Clinic, she began to suffer from obsessions, which have persisted to this day. The onset of the obsession is marked by a feeling of depression and precordial anxiety, then she begins to cross herself indefinitely and cannot stop this act of her free will. At church, she is prevented from following the service, because all her attention is taken up with the unrestrainable act of crossing herself. Besides, she suffers from various doubts and fears; she is afraid to look into a barrel filled with water, she fears the sight of water itself, she is afraid of being filthy and washes her hands an immoderate number of times through the course of the day. When performing some simple act, she doubts whether she is doing the act rightly. At times, she has

hallucinations of sight and hearing,—she imagines herself to be the object of observation, that she is being scolded and pursued. She also has spells of anger and irritation. She has become enfeebled mentally, talks incoherently and her memory has diminished to a marked extent.

Case XI.—S. E. F., 19 years of age, seminary student, came to the Clinic in 1899. His father and paternal uncles are alcoholists. His mother is a nervous person; his grandmother on the father's side is insane. He denies being an alcoholic himself, and says that he is free from syphilis. He states that he is often troubled with excessive sexual excitement and frequently with seminal emissions. He has always had mediocre capabilities and suffered from indecision and doubts. He has been subject to erotic obsessions quite a long while, but they did not interfere with his daily work to any marked extent until two years before his admission to the Clinic. During the last year preceding his admission, he had one attack of marked mental depression; he isolated himself from the world and worried; this was followed by an attack of unwarranted exaltation: he wished to see as many people as possible, he began to drink wine immoderately, etc. The erotic obsessions from which he had suffered for a long time now became of marked intensity. He explained that this change was caused by his having seen a human skull in the room of a friend. He was considerably worried about these obsessions, considered himself as being an unpardonable sinner and isolated himself and spent his time in crying over his misfortune. His memory failed him, he was distracted, could not concentrate himself sufficiently to be able to read anything or to perform any work. He lost in body-weight, but still seemed to have his faculties until about one year after the treatment was begun at the Clinic. At that time, he complained bitterly of the erotic obsessions, which he could not conquer. Everything about him, every conversation leads him on to erotic obsessions; he tries every possible remedy he can think of to master himself, but with no results. In connection with these obsessions, he has another obsession: he tries to resolve the question whether he is to blame for these ideas or not. His mind seems now quite shattered: he complains of some physician, saying that he is responsible for some of the patient's trouble, and he becomes exhausted after the slightest conversation.

Case XII.—B. S. P., 18 years of age, writer, came to the Clinic in 1899. His father had disappeared; a brother is in prison; his mother is tubercular. The patient has suffered from obsessions since childhood; they were at times of erotic nature. He

has always been subject to doubts, indecision, verifying every one of his own acts. He could attend to his work, however. Lately, he became disturbed by the obsessions to a degree that interfered with his occupation, as he could not concentrate his mind on his work. He isolated himself, remained in bed and refused to answer questions addressed to him, saying that he was ashamed to look people in the face. His mind seems to be giving way rapidly and he seems now to be a dement.

The development of dementia after the onset of obsessions demonstrates that isolated symptoms of diseases should not be taken as a criterion for the definition of a whole disease; the entire complexus of symptoms should be considered before a proper diagnosis can be made. (*Kraepelin, Einfuehrung on die Psychiatrische Klinik*, 1901).

Our conclusions regarding the subject examined here are: 1,—Subjects afflicted with morbid obsessions have morbid traits, which are as characteristic and individual as are those found in hysterical and epileptic persons; 2,—these subjects generally have some members in their families who suffer from similar morbid disturbances, or at least from similar personal characteristics; 3,—these personal characteristic traits to which we refer are congenital psychic stigmata; 4,—when melancholia develops as an accompaniment of obsessions, it is generally found that it is dependent on the nature of the obsessions.*

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PURE VERBAL DEAFNESS.

A CASE OF PURE VERBAL DEAFNESS DUE TO AN ABSCESS OF THE LEFT TEMPORAL LOBE. TREPHINING—RECOVERY.

BY A. VAN GEHUCHTEN AND CH. GORIS.

Peripheral verbal deafness (Lichtheim) or *subcortical sensory aphasia* (Wernicke), better called *pure verbal deafness* (Dejerne and Serieux) is characterized essentially by the loss of comprehension of spoken language, inability to repeat words heard and loss of ability to write under dictation.

This form of aphasia is exceedingly rare in occurrence, especially when the cases in which the auditory apparatus is injured are excluded; particularly, also, when exclusion is made of lesions of the labyrinth, which might give rise to a symptomatology which we shall here consider (*Freud*).

There are only six cases of pure verbal deafness recorded in medical literature; in these cases lesions of the peripheral auditory apparatus are excluded; four cases were followed by autopsies. According to Thomas (1), even this smaller number of cases should be examined with care.

The first case of pure verbal deafness was published by Lichtheim (2) in 1885. The case was that of a man, 55 years of age, who had an attack of apoplexy, in 1877. This attack was followed by a slight paresis of the inferior facial, on the left side, and by some disturbances of speech: paraphasia during reading, repeated or spontaneous speech, and by paraphagia while writing under dictation. These disturbances gradually faded away. In 1882, a second apoplectic attack took place, and the facial paresis became aggravated; the disturbances of speech which remained to a slight degree also became more marked. They disappeared rapidly, however, but verbal deafness, which persisted, took place during this attack; the patient could not understand any word, although he could hear every noise produced about him. There was loss of ability to repeat what was said to him as well as to write under dictation. Spontaneous speech was absolutely correct, without there being manifested the slightest paraphasia. The intelligence was intact and spontaneous writing was perfect; the same was true of the ability to read aloud and to copy in handwriting. This condition existed during a period of three years, at the end of which time the patient died. No autopsy was performed.

Lichtheim and Wernicke (3) think, on the ground of theoretical consideration, that there existed in this case a lesion in the white substance of the left first temporal convolution. According to them, this form of sensory aphasia is a focus symptom and should be considered as a consequence of an impairment of cerebral perception of language.

Pick (4) published, in 1892, the first case of pure verbal deafness, with an autopsy. This case was that of a man, 24 years of age, who had an attack of apoplexy when he was 14 years old; this attack was followed by a slight degree of left hemiplegia and disturbances of speech. At twenty years of age, a second attack took place and was followed by slight aphasia. Three months before entering the hospital, a third attack took place and was followed by some cerebral excitation. On examination, Pick discovered the presence of verbal deafness, enfeebled intelligence and some other mental disturbances. The patient gave the impression of suffering from complete deafness: he paid no attention to noises made near him. It was found, on attracting his attention, that he could not hear a soft noise made by a slight ringing of a bell, or when called or spoken to in a low tone of voice; but he could hear loud ringing of a bell, clapping or calling. Spontaneous speech was unimpaired. There was complete loss of ability to repeat words or to write under dictation.

Pick explains the observed symptoms by a supposition that the first apoplectiform attack caused a pathological focus in the *right* hemisphere and that the transitory hemiparesis on the left side as well as the disturbances of speech were the consequences of that focus; that the second attack produced a pathological focus in the *left* hemisphere and caused the aphasia and probably verbal deafness. The fact that this verbal deafness did not lose in its first intensity makes Pick suppose that there existed a corresponding focus in the *right* hemisphere; this focus dated from the time of the first attack, but produced no direct disturbances, he supposes. He concludes, from the above mentioned supposition, that there existed two

focuses of softening: one, in the right temporal lobe and the other, in the left. This latter focus was supposedly located in the white substance, according to Lichtheim's theories. As regards the fourth attack, Pick supposed that it caused a third focus in the gray basal ganglia as well as in the internal capsule; the persistent left hemiparesis is thus explained.

The autopsy revealed lesions in *both* temporal lobes. On the right side, the whole middle temporal convolution, the whole island of Reil and small parts of the lower extremity of the anterior central convolution and the lower frontal convolution were transformed into a soft, fluctuating mass, of straw color. This lesion involved both the gray and the subjacent white substance; the lesion involved also the anterior wall, the external capsule and the external segment of the lenticular nucleus.

In the left hemisphere, similar softenings were found in the posterior half of the superior frontal convolution and throughout the extent of the supra-marginal convolution. This softening was more superficial than was that on the right side; the external capsule and the basal ganglia were intact.

Pick concludes from this case that Lichtheim's and Wernicke's opinions, according to which sub-cortical verbal deafness is due to a lesion of the white substance *exclusively*, are not justified.

Some years later, Ziehl (5) reported a new case of verbal deafness, in a man, 75 years of age. On Dec. 24, 1891, he had a sudden attack of verbal deafness with paraphasia. He could hear all noises made within range, but could not understand words, nor could he recognize musical airs (*amusia*). He could recognize some letters, however; he could not repeat what was said to him and he manifested slight paraphasia. He could read aloud and name objects shown him, although with slight paraphasia. This condition persisted to the date of his death,—June 23, 1892. There was no autopsy performed on the body.

In 1893, Serieux (6) published a case of a woman who, during the years 1887-1892, presented a typical *tableau* of pure verbal deafness. At the end of 1892, the conditions were as follows: "verbal and musical deafness, integrity of spontaneous speech, loss of the ability to repeat words, spontaneous writing and copying were normal, impossibility to write under dictation; mental and loud reading normal. Integrity of language. In 1892, however, it became apparent that the symptoms of pure verbal deafness were being coupled with sensory aphasia: there was paraphasia and paraphasia, slight in degree at first, but increased progressively in intensity; there was also impaired ability to read at sight. The symptoms of sensory aphasia grew steadily worse, and jargonophasia finally set in; the patient lost the ability to understand written language, her writing became incomprehensible, and even her signature looked altered. The acuteness of hearing on the left side became gradually impaired, ending in marked deafness. For some years there was deafness on the right side, which was caused by an otitis. The intelligence became markedly decreased and the patient died in March, 1893, when 55 years of age, eight years after the beginning of the present disease.

The autopsy and histological examination of this case was made by Djerine and Serieux (7). They found a marked atrophy (almost half) of *both* temporal lobes, which left bare the island of Reil. This atrophy decreases from above downward and antero-posteriorly, extending on either side to the supra-marginal convolution and to the base of insertion of the gyrus angularus. The latter seemed intact.

The histological examination showed that the lesion was exclusively cellular,—that of chronic poliencephalitis. The communication fibres had disappeared, the molecular layer was devoid of nervous cells, but there was a larger number than normal of neuroglia cells and nuclei. The small pyramidal cells had disappeared, almost completely, through atrophy; the layer of the large pyramidal cells was less altered, but the number of the cells was below the normal. No trace of any focal lesion could be found."

Dejerine and Serieux conclude from this case that: 1, pure verbal deafness depends on a lesion *purely* cortical. (In Pick's case the lesion was both cortical and central).

2, in pure verbal deafness the lesion is *bilateral* and is situated in the temporal region,—the cortical centre of general hearing.

3, in pure verbal deafness there is, probably, no separation between the centre of general hearing and the auditory centre of words, but there is a weakening of the general centre of hearing.

Dejerine and Serieux's case seems, then, to completely refute Lichtheim's and Wernicke's opinions regarding the subcortical origin of verbal deafness.

In 1898, Pick published a second case of pure verbal deafness of which, unfortunately, I have no detailed account (8). At the autopsy he found lesions situated in *both* temporal lobes; thus, the opinions formulated by Dejerine and Serieux are confirmed.

A more recent case, that of Liepmann (9) however, upholds the opinion of Lichtheim and Wernicke.

A man, 67 years of age, presented, after two attacks of apoplexy which caused right facial paralysis, verbal deafness, his hearing apparatus being perfectly normal. This verbal deafness was accompanied, to a certain degree, by psychic deafness. The condition of this patient remained stationary up to the time of his death, which was caused by a new apoplectic attack. At the autopsy, an extensive hemorrhagic focus was found. This focus completely separated the optic layer and the unimpaired part of the corpus striatum from the cerebral cortex. The lesion had destroyed the external capsule, the larger part of the corpus striatum and the internal capsule. The right hemisphere was normal.

Liepmann concludes from his case that verbal deafness, in his patient, must have been produced by a focus in the white substance of the left temporal lobe and that this focus was masked by the final hemorrhage. This proves, at any rate, that the disease could not have been the consequence of a cortical lesion, as the cortical substance of the two temporal lobes was intact. Liepmann comes back, then, to the opinions of Lichtheim and Wernicke, according to which pure verbal deafness is really of sub-cortical origin. More, he brings out the fact, contrary to Pick and Dejerine's assertions, that the manifestation of pure verbal deafness does not necessitate the presence of a bilateral lesion, as in his case the right hemisphere was intact.

These few cases of pure verbal deafness are not free from criticism. Thus, Thomas brings to light the fact that in Pick's first case there existed a certain degree of paraphasia and that Ziehl's patient presented paraphasia, paragraphia and paralexia. He inclines to the opinion that these two cases can be brought under the heading of sensory aphasia.

Dejerine and Serieux's case is not typical, either, of pure verbal deafness; because "the verbal deafness never existed by itself: from the very

beginning, there co-existed a slight degree of paraphasia and verbal amnesia; similar defects were found in spontaneous writing. Then, the disturbances of speech and in writing increased with the verbal deafness; one can interpret, then, the symptoms in the beginning as having been those of early sensory aphasia; and those which came on later,—as symptoms of typical sensory aphasia, which differed from the majority of such published cases by the extremely slow course.”

This sensory aphasia became slowly transformed into total deafness. Thomas says: “The lesions found at the autopsy should be regarded rather as those of total deafness than lesions of pure verbal deafness. As these lesions were exclusively cortical, it is also well to suppose that the almost pure verbal deafness, which existed in the beginning of the affliction, was also of cortical origin.”

Thomas says that if we admit, with Dejerine and Serieux, that the verbal deafness of their patient was of cortical origin, we cannot admit that their case has furnished the proof of the necessity of a bilateral lesion for the production of verbal deafness, for there is nothing to prove that the verbal deafness alone existed when the lesion was bilateral.

According to Thomas, Liepmann’s case may be considered as being the most schematic one of pure verbal deafness. Thomas supposes that in Liepmann’s case there must have existed a sub-cortical lesion, which interrupted the course of the projection fibres of the temporal convolution and caused the verbal deafness. He thus comes to the conclusion that there are two varieties of pure verbal deafness: a sub-cortical and a cortical verbal deafness.

Dejerine and Serieux’s case has also been criticized by Liepmann (10) as to the correctness of its diagnosis. He points out the fact that the faculty of repeating words heard was not lost completely. The patient could repeat part of the questions addressed to her without understanding their sense. Nor was there complete loss of the ability to write under dictation: she translated into writing the words heard, in the sense of sounds perceived; the errors in that writing were due to the fact that she did not understand the words. There was, then, according to Liepmann, no loss of ability to repeat words, but a certain degree of echolalia, with loss of comprehension of words which she repeated; in other words: there was conservation of what Liepmann calls *Wortlautverstaendniss* and loss of what he calls *Wortsinnverstaendniss*.

Veraguth (11) lately published another case of transitory verbal deafness, with an autopsy, but the diagnosis of the case is not free from all criticism.

A man, 42 years of age, with no hereditary stigma, but with a somewhat feebly resisting nervous system, impaired by a previous typhoid fever, sustained a cranial traumatism, probably following some alcoholic abuse. This accident was followed by some disturbances of sight: inequality of the pupils, concentric narrowing of the visual field for colors, a certain degree of dyslexia as well as some general psychic impairment. Some six months after this accident, following the abuse of alcoholic drinks, *pure verbal deafness* set in, without the accompaniment of any other speech disturbances. This deafness lasted only four days and disappeared suddenly, after a profuse epistaxis. The patient died, one year later, from endocarditis.

At the autopsy, Veraguth found a marked atrophy of the left hemisphere, involving the posterior or opercular part of the inferior frontal convolution. This part of the convolution was entirely destroyed and replaced by a

serous liquid. A similar lesion existed at the site of the middle portion of the first temporal convolution. In this region, there was also a collection of serous fluid between the brain and its coverings. The first temporal convolution was narrow; the first temporal fissure was three centimetres deep; the central, paracentral and inferior frontal fissures were of the same depth.

In the right hemisphere, the narrowness of the first temporal convolution was most remarkable.

The cerebral white substance was reduced in its totality.

A microscopic examination showed that the gray substance of the atrophied convolutions was narrower than usual. The same was true of the sub-jacent white substance. There was no trace anywhere of any focus in either the cortical or the medullary substance. Specimens prepared by Nissl's methods do not indicate any clue to the cause of the reduction of the gray substance.

Veraguth draws the following conclusions from this case:

1, pure verbal deafness may exist without there being a sub-cortical focus-lesion in the left temporal lobe. In this respect he approaches his case to that of Dejerine and Serieux; more, he ascribes to it a more important value. He seems to think that the lesion described by him is the minimal observed up to now in patients who have suffered from verbal deafness.

2, the bilateral atrophy of the first temporal convolutions supports Pick's and Dejerine's opinions, according to which the onset of pure verbal deafness must be preceded by a *bilateral* cortical lesion, against Liepmann's assertions to the contrary.

3, Pure verbal deafness may exist, without there being necessarily any marked microscopic changes in the auditory tract, uniting the cerebral cortex with the auditory nerve.

4, As the labyrinths were intact, Veraguth's case only confirms the rule: verbal deafness is caused, in reality, by a lesion of cortical origin.

We regret to find it necessary to say that none of Veraguth's conclusions seem to be justified.

We are of opinion that there is no relation between the cerebral lesions found by Veraguth and the transitory verbal deafness of his patient, for the simple reason that if these cerebral lesions had been the causes of the verbal deafness the latter should have persisted to the end of life; but the verbal deafness existed only four days, and the patient lived on over one year after the disappearance of this verbal deafness, without presenting any symptoms of disturbances in articulate speech. The brain of Veraguth's patient cannot, therefore, be considered as being one of a patient who had suffered from verbal deafness.

Veraguth's case cannot, therefore, be likened to Dejerine and Serieux's and we cannot admit the conclusion regarding a minimal lesion apt to cause verbal deafness; for the lesion which was the cause of the verbal deafness *did not exist at the time of the autopsy*.

He does not prove anything, either for or against the indispensable bilateral cerebral lesion.

Veraguth seems to have recognized the small value of his conclusions, for, after having formulated them, he admitted himself that there was a contradiction between the clinical and the anatomical *tableau*. He asks how it was possible for the verbal deafness of his patient to have been transitory when the autopsy showed the presence of a bilateral atrophy of the first temporal convolutions; and, trying to answer his own question, he concludes

that in his case the sub-cortical sensory aphasia must enter under the heading of functional disturbance. He finally concludes that the determining cause of this verbal deafness was due to a local circulatory disturbance, slight and transitory, in the corresponding branch of the Sylvian artery.

We think, with Veraguth, that this is the only plausible explanation of the verbal deafness observed by him and that the atrophy of the temporal convolutions has nothing to do here with the sensory aphasia.

If we admit the circulatory disturbance to have been the cause of the transitory verbal deafness we differ, however, with Veraguth's final conclusion, according to which he also brings into play the atrophy of the temporal convolutions.

The absence of verbal deafness during a whole year after recovery from the transitory spell, proves, in our opinions, that the atrophy of the convolutions does not constitute part of the mechanism of this deafness. Besides, there is nothing to prove that this atrophy of the temporal convolutions existed when the verbal deafness set in; there is no proof that the transitory circulatory disturbance was not, in itself, sufficient cause for the trouble, and that the convolutions were not normal at that time.

Consequently, the cause of the verbal deafness in Veraguth's case cannot be easily determined. The positive point, however, is that the cerebral atrophy found at the autopsy could not have been the sole cause of the deafness.

Verbal deafness is not always of cerebral origin. Bleuler (12) called attention to the fact that the loss of comprehension of words may be due to external physical causes, independent of the auditory apparatus. Thus, one may hear, sometimes, perfectly all that is going on in an adjoining room, even the slightest noise, even recognize the individual voices of the speakers and yet not understand the words spoken, or else understand them only incompletely. Freund (13) called attention to the fact that loss of comprehension of words may also result from a lesion of the labyrinth or even from that of the middle ear.

It were well, then, in all cases of verbal deafness, to examine carefully the various parts of the auditory apparatus in order to separate distinctly verbal deafness of central from that of peripheral origin.

We must also call attention to the fact that there is a true verbal deafness of hysterical nature, which might be confounded, at first sight, with cortical or sub-cortical verbal deafness. Raymond has recently reported two such cases to the Neurological Society of Paris. The diagnosis may be difficult, especially in cases like Raymond's; the duration here was eleven months in one and nine years in the other case, regardless of the treatment applied with a view to re-educating the sense of hearing and regardless also of the application of hypnotism.

Recently, we have had occasion to handle a case of pure verbal deafness, incontestably of cerebral origin, which seems to have furnished us an irrefutable proof that pure verbal deafness can be caused by a *unilateral lesion*, implicating the left temporal lobe exclusively. This pure verbal deafness presents still another particular interest: the deafness was caused by an abscess of the left temporal lobe, the abscess having extended from an abscess of the middle ear; trephining enabled us to empty the pus and to bring about retrocession of the grave symptoms of cerebral origin.

The patient was a man 40 years of age, and suffered from otorrhoea on the left side, since he was three years old. The running from the ear was

intermittent in occurrence. Last December, the discharge was accompanied by a headache in the left frontal region. An orist treated the ear during the course of a month's time, using antiseptic injection and sedatives.

As the discharge continued, one of us was called in consultation, on January 15. The patient, who was up and about on the previous day, was now confined to his bed, complaining of a bad headache in the left frontal region, which caused him insomnia. As he was giving the history of his illness, he was interrupted and asked whether he had pain elsewhere than in the frontal region; he answered: "Some beef-tea, some very good beef-tea, ask my wife." The patient did not understand what was said to him, although he could express perfectly what he wished to say. This was the first manifestation of his verbal deafness. The family informed us that within the last few days it had been noticed that the patient's behavior had changed: He was generally reserved, serious, secretive, especially regarding matters of his business; but that he had become communicative to a point of talking about his business with any one who wished to listen to him.

The examination of the sore ear revealed the presence of a large perforation of the ear-drum and of a fetid pus in the ear. The hearing was very acute on the right side, but almost abolished on the left. There had never been any febrile movements.

It was decided to operate on the patient, and on January 16, the mastoid was found filled with pus down to the point of this bone; there was destruction of bone so that the lateral sinus behind and the dura mater of the upper plane of the antrum above were exposed. In both these places the dura mater was of normal color. For this reason the surgical intervention was not pushed any farther, so much the more that according to Broca the emptying of the mastoid is often followed by a disappearance of the cerebral symptoms.

The patient was much improved the next day, he understood to a certain degree words addressed to him, and the temperature was below 37 degrees C.

On the morning of the 19th, the temperature rose to 37.8 degrees C., and the improvement of the previous night had disappeared: the verbal deafness was complete. In the evening we examined the patient thoroughly.

There was complete absence of either motor or sensory disturbances and there were no ocular signs. The pupils were normal, and an ophthalmoscopic examination by Drs. Demets and Gauthier gave negative results.

The verbal deafness was absolute: the patient did not understand any question addressed to him. He did not seem to understand the sound of the voice, because, in answer to every question asked, he repeated: "Tomorrow I shall be better," or else "I accept the augury," "it is sad, is it not?" "Do you think I shall be better? Ask my sister, is that not so sister?" He could also hear other sounds, as, the ticking of a watch; with his right ear he could hear this sound at a marked distance.

There was no verbal blindness: written questions were read aloud correctly, and proper answers were given. There was no paraphasia. Spontaneous speech was normal and correct, but there was a certain tendency to talkativeness. There was complete loss of the ability to repeat words. He was not examined as to his ability to write under dictation.

As the existence of pure verbal deafness was incontestable, and in view

of the presence of pus in the mastoid apophysis, the diagnosis could not be doubtful: we were certain of the existence of an abscess of otitic origin, located in the left temporal lobe.

An operation was performed at six o'clock in the evening. A trephine, two centimetres in diameter, was used and applied three centimetres above the auditory meatus. As the button of bone was being taken off, the sound slipped through the dura mater, along the anterior border of the opening, and must have penetrated into the cerebral substance, for as soon as the button was lifted, a liquid pus began to escape from under the dura mater. After this accidental sounding, a canula sound was introduced into the temporal lobe. It gravitated by its own weight to a depth of from 6 to 7 centimetres, following an oblique direction downward and backward. A drainage tube was introduced in place of the probe, and a considerable quantity of pus escaped. The tube was left there for slow drainage of the abscess.

According to Dr. Morelle's report, the pus was aseptic.

In order to hasten the evacuation of the pus, aspiration was made twice daily with a syringe adjusted to the drainage tube. Until January 25, amelioration went on slowly, and the drainage tube was then taken out. This was a bad stroke, as in the evening the condition of the patient was as bad as it was before the operation was performed. The drainage was put back, and after the removal of a slight quantity of pus, the new alarming symptoms disappeared.

On January 28, the patient understood correctly certain questions addressed to him, but some questions he did not answer properly. He asked to be given the daily papers and interested himself actively in the commercial news. The cerebral wound then measured 55 millimetres in depth. On that day he presented paraphasia. Thus, when shown the queen of diamonds and asked to name her, he said: "It is the queen of circumscription." When shown the ace of diamonds, he said: "It is the ace of circumscription."

The verbal deafness was decreasing, however, from day to-day.

On January 30, we asked one of his business friends to have a conversation with him, and he spoke without showing any defects of speech.

On February 4, the wound was still 5 millimetres deep. The patient complained insistently of his confinement to the ward, and regardless of our advice to write to his family, he refused to accede to our request. When we finally succeeded in making him write a letter, he no sooner wrote a few lines than he refused to continue: there was evident paraphasia. The following lines are the examples:

"Prière faire expéd. d'un copie pour compte de mon frain 9 rue du à Bruxelles, au consulat-syndicat à mon."* Then followed some words written in an incomprehensible manner.

At that time the verbal deafness existed to a certain degree. There were moments when the patient understood everything, and others when he could not understand anything. His condition had changed for the better, however, and there seemed to be improvement daily. On February 7, at 8 o'clock in the morning, the drainage tube reached 2 centimetres deep in the wound, and in the evening it could be pushed in only 1 centimetre. The following day the tube was taken out, and the patient left the hospital 8 days later. At times he showed no trace of verbal deafness. He

*These lines are untranslatable for obvious reasons. *Translator's note.*

has been seen twice since that time by one of us. The recovery has been absolute. On March 27, the patient was actively engaged in the discharge of his important business.

In order to locate the precise spot in the temporal lobe, where the surgical operation was performed, we trephined a head of a corpse, of a man 25 years of age, according to the indications given by us above. After the incision of the dura mater, we introduced through the opening a wooden stick, the thickness of the drainage tube used in our case, the length of the stick being 5 centimetres. It was distinctly seen on the brain hardened in formol that the stick penetrated into the temporal lobe through the middle part of the second temporal convolution.

An incision made through the plane where the stick was lodged, in the temporal lobe, shows that the section passes through almost the entire thickness of the temporal lobe below the corresponding prolongation of the lateral ventricle.

From the point of the *etiology*, it seems to us of importance to bring to light the fact that in the majority of the cases of pure verbal deafness, recorded up to this date, the patients had apoplexy. There are no exceptions in this regard, save Dejerine and Serieux's patient, in whom the verbal deafness was due to a chronic poli-encephalitis; Ziehl's case may also be considered as being an exception, but unfortunately there was no autopsy on the body. Our case was the first, in whom pure verbal deafness was caused by an abscess of the left temporal lobe.

As regards the *ultimate course* of the verbal deafness, we notice that in the published cases this deafness persisted up to the time of death. Our case is the only one, in whom the verbal deafness, unquestionably due to a cerebral lesion, could be cured through surgical intervention.

Our case also demonstrates most clearly that pure verbal deafness can be the consequence of a localized *unilateral* lesion in the left temporal lobe, in accordance with Lichtheim's, Wernicke's and Liepmann's opinions.

Our case also furnishes proof of the important point that the gravity of the symptom, verbal deafness, is not *always* due to *destruction* of either the cortical or subcortical nervous substance; also that this symptom *may* be an external translation of a simple *compression* acting either on the gray matter of the superior temporal convolution, or on the sub-jacent fibres. For, if, in our case, the cerebral abscess had *destroyed* the fibres or the cortical regions, the integrity of which are indispensable for the comprehension of heard words, the opening of that abscess and the evacuation of the pus would have had no influence on this deafness. In order to explain the recovery which took place, we must admit that the verbal deafness was here the consequence of temporary suspension of the function of these fibres or of this cortical region caused by compression.

It is evident that our case of pure verbal deafness cannot thoroughly elucidate the mooted question concerning the cortical or sub-cortical seat of pure verbal deafness, as the compression caused by the abscess may have made itself felt in both,—the gray substance and in the sub-jacent fibres.

We do not think that the diagnosis of pure verbal deafness in our case can be contested on account of the presence of some paraphasia and paraphria. We think that the paraphasia which he presented was nothing else than a direct consequence of his verbal deafness; we do not wish to be understood as saying that pure verbal deafness must inevitably be coupled with paraphasia; but we simply remark that paraphasia *might* be

produced during the course of pure verbal deafness. When we showed our patient the play card, he wished to say, we think, "queen of diamonds;" he thought that he was saying this, although he pronounced the words "queen of circumscription;" this was simply because, being subject to verbal deafness, he could not control the correctness of the words which he used. A similar paraphasia is often met with in normal persons who, for some reason or other, fail to keep track, by the sense of hearing, of spoken words.

Dejerine, who has contributed so much to the elucidation of this question, is also of our opinion.

It is more difficult to explain the presence of the paraphasia which our patient presented, as his intelligence was intact and as there was not the slightest index of the presence of verbal blindness.*

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THE GENESIS OF EPILEPSY CLINICALLY CONSIDERED. THE PATHOLOGY, PROPHYLAXIS AND TREATMENT OF EPILEPSY.

ILLUSTRATED BY CASES AND STATISTICAL TABLES.

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(Continued.)

PROPHYLAXIS.

The importance of this subject prevents me from treating the question in the worn phrases and sentences that bespeak nothing higher than cant. To say that the evil can be eradicated by means of benevolent and charitable aid devoted to improving the moral tone of the poor and ignorant is idle waste of time and space and paper. The inefficiency of these measures is too well known to the clinician as well as to the families whose lot it is to bear the stigma of being members of an alcoholic's breed. Besides, it is not fitting for the scientist to commit such a gross error of reasoning as to presume that alcoholism is a disease of the poor. Alcoholism is a disease, but like insanity, it attacks indiscriminately both rich and poor. Therefore, when we provide a prophylactic measure it must be sufficiently flexible to indicate the help for both classes.

I do not wish to be understood as saying that the charitable and benevolent work that helps lessen alcoholism among the poor should be abandoned. On the contrary, let those who are engaged in this laudable work continue in their efforts and help raise the level of human morality. The results obtained from the efforts of societies which provide for the improvident drunkard, either by enacting workhouse reforms or by establishing systems of employment to suit the subjects in question are gratifying. But the gratification is rather of a relative measure when compared with the results that could be obtained from a system of which I shall speak presently.

At the Fifth International Congress of Criminal Anthropology held at Amsterdam, September, 1901, I had occasion to speak of what would constitute a rational measure in the prevention of the birth of crime and of its propagation. I held that proper instruction as well as education begun in early childhood were invaluable social measures for the above purpose. This opinion was

based on a study of reformed prisoners at the New York State Reformatory at Elmira. The conclusions I drew were these: if an inveterate drunkard criminal can be transformed into a sober and industrious citizen by means of a rational education, then is it possible to prevent a subject from becoming a drunkard and criminal by giving him a rational education before his nature becomes vitiated—when he is yet a child.

We need a thorough understanding of what constitutes an education; the latter is imperfectly understood to-day, if we are to judge the acceptance of the term by that which is meted out as an "education" in our schools.

The principles of self-restraint as well as of accommodation to the restrictions and deprivations of life should be taught from early childhood.

As I must curtail this paper, I shall only remark that, unfortunately for our nation, the medical profession has not yet divested itself of that garb of easy tolerance which, when closely analyzed, is suggestive either of hypocrisy in or indifference to this question. But some physicians and our medical press, with the keenness peculiar to this country, are already presenting the question of alcoholism in the light brought out by clinical observation, and we may feel confident that the time is not distant when the members of our profession will cease allowing the fear of ignorant ridicule to interfere with their sacred duties.

CONCLUSIONS.

From the arguments adduced in this paper, I conclude that:—

A clinical study of the genesis of epilepsy shows that this convulsive disease is intimately connected with ancestral alcoholism.

When closely traced to its origin, epilepsy appears to have its source, in great part, in epileptiform convulsions of alcoholic nature in the antecedents.

Where alcoholism in the father or mother, or in both, is absent, it is often found that alcoholism existed among the grand-parents; and where the history is not sufficiently clear to incriminate any of the direct ancestry, the morbid predisposition is often indicated by the existence of alcoholism in the direct collateral family.

Epilepsy may be transmitted from an epileptic parent directly to the offspring.

Epilepsy may be transmitted through a generation free from the manifestation of the disease; the hereditary nature of the malady is then generally proven by the discovery of the existence of epilepsy in the direct collateral family of the preceding generation.

Insanity, neuroses, psychoses and criminality are often causes of epilepsy in the offspring.

The acute contagious and infectious diseases occurring during pregnancy may cause epilepsy in the child; but it is a question whether these causes are to be accepted as the sole factors in the causation of the disease,—predisposing causes should be looked for.

The chronic organic diseases cannot be accepted as the sole responsible factors in the causation of epilepsy.

Syphilis, like other diseases, cannot be accepted as a specific factor in the causation of epilepsy.

Microscopic cerebral pathology shows that an intimate identity exists between the morbid changes found in alcoholism and those found in epilepsy.

This fact is logical because alcohol stands, clinically, as the main cause of epilepsy.

Alcohol taken in excess in the form of wines, etc., does not cause true epileptic attacks; epileptiform convulsions are the rule in such cases so far as the original alcoholicist is concerned; but the offspring of such subjects inherit true epilepsy.

Excessive use of absinthe causes true epileptic convulsions in the original alcoholicist. The offspring then inherit epilepsy in the same manner as the offspring of the ordinary alcoholicist.

The birth rate is low and the death rate is high in the alcoholic family,—the death rate being particularly high during infancy and the cause of death during this period generally being meningitis with convulsions.

Of 140 cases of epilepsy considered, 90 cases had direct parental alcoholic heredity, making a percentage of 64+.

Considering the causes of epilepsy, it is evident that the prophylaxis is the most important agent for checking the growth of the disease.

All the cases and documents cited in this paper were studied in Dr. Magan's wards.

(The second part of this paper will be continued in Vol. III.)

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PHILOSOPHIC RESEARCH VERSUS REALITY.

The philosophy of national existence is always of great interest: the subject of ethnological psychology does not, however, lend itself easily to analysis. The main reason of this difficulty lies in the fact that nations, like individuals, are in reality *not* concrete units; far from being that, their psychological development is accidental in proportion to this or that tide that contributes towards the foundation or disintegration of this or that form of national government, institution or other function of importance in the existence of a people. Professor E. Murisier publishes an article entitled *La Psychologie du Peuple Anglais* (Archive de Psychologie, April, 1902), in which he has undertaken the arduous task of handling the fickle question of the psychology of the English nation and of its ethology. He considers the various traits of psychic development of that nation and concludes, on the whole, that although the Englishman prides himself on his *individuality*, as such, he does not, under all circumstances, seem to be true to his psychic picture of himself; he is more a concrete creature than he is an idealist; the fact becomes most evident when examining the English Fine Arts, Music, Politics, etc. The pre-eminent trait of the Englishman is his irrepressible tendency to activity, as well as his insatiable desire to

conquer; and yet, he is more bound down by what is commonly known as *cant* than is any other man in the civilized world. The English woman, when considered in her two stages,—as a girl and as a matron, is also an enigmatic compound of contradictions that belies the existence in her of the true spirit of independence; yet the Englishman is an admirer of this trait of independence, which is found in Germany and in France. Stuart Mills, the author goes on to say, was so charmed with it in France that he almost venerated the *atmosphere of freedom*, which he tasted there. Idealism, we are informed, also exists to a larger extent in the Latin countries than it does in the English domain. Space does not permit our examining here the exact value of idealism as it is commonly understood, and the loss that accrues to the English because they lack this trait. We wish to remark, however, that, to us, there seems to exist a large amount of Utopian reasoning in the philosophers' studies of peoples; philosophers are often apt to see life not as it is in reality, but as they think it to be from the sketches they read while burning the midnight oil. They seem to base their works on conclusions that are often the results of sheer artificial constructions; they expect the world, then, to take their teaching in earnest.

We do not have to go far to prove that *nationality*, national psychology, ethology of nations, etc., etc., are nothing more than artificial products of some narrow-minded constructions which are forcefully brought about and eventually perpetuated by laws and regulations, and which have succeeded in reducing the broad entity of *man* to a being with some traits varying according to the geographical origin of those laws and regulations; ample proof of this is seen in Europe. In the United States, where individual life is most developed, because, thus far, it has been unhampered by traditional restrictions, we again find ample evidence to support our argument. If the European philosophers were to come over here and study the people *as they are* they would easily recognize the artificiality of their constructions regarding the inherency of national weaknesses, defects and other national traits. Here, the American-born Frenchman or Italian is none the less adapted to his surroundings because he is inherently more disposed towards idealism than is his neighbor, whose parents were born in England; and the descendant of Albion is not at all a menace to the descendant of Gaul because of the former's propensity to "conquer"; even the profoundly idealistic German has thus far managed to keep up quite creditably, in the struggle for existence, with his more practical minded neighbors, the English and their descendants.

We learn with great pleasure the news of the promotion of Dr. V. Magnan to the grade of officier de la Legion d'Honneur. We address our sincerest congratulations to the physician of Ste-Anne and our distinguished associate editor.

HONORS TO THE FOUNDER OF THE *Revista Sperimentale di Freniatria*.—Professor AUGUSTO TAMBURINI founded the "*Revista*" twenty-five years ago, and to-day this is the most valuable publication on psychiatry and neurology. His friends and admirers celebrated the occasion of the 25th anniversary of the Journal, at Reggio Emilia, at the Hospital for the Insane, which has grown into a centre of learning under his vigilant direction; he holds to his credit also the breaking down of the old methods of the treatment of the insane and the substitution of the newest and scientific measures at the Reggio Emilia Asylum for the Insane. The volume of December, 1901, is dedicated to Professor Tamburini and appropriate inscriptions and expressions of gratitude by his friends are presented on the first pages of the volume.

MEETINGS.

Congress of French Speaking Physicians of North America. Quebec, June 25, 26 and 27; the meeting will be held in connection with the semi-centennial celebration of Laval University.

Congress of Alienists and Neurologists of French and French-Speaking countries, at Grenoble, August 1-8, 1902. Prof. Regis, University of Bordeaux, is the President.

International Congress of Care for the Insane, Antwerp, Belgium, September 1-7, 1902. Dr. Peeters, President, colony of Ghee.

DEATH OF CHARLES LETOURNEAU.—The distinguished scientist Charles Letourneau, died February 21, 1902. His numerous works on anthropology and anthropological ethnology are well familiar to the learned profession. The Paris Society of Anthropology was fostered by him and stimulated in its progressive growth. Only two months before his death he completed a most important work, "*La Psychologie Ethnique*," which was analyzed in our issue of March, 1902. An autopsy was performed on his body and his brain was taken to the laboratory of the Society of Anthropology. The brain weighed 1,490 grams; the brain alone, without the cerebellum, weighed 1,318 grams. This weight is about 150 grams above the average weight.

We learn with much regret that Dr. Kogevnikoff, Professor of neuro-pathology, at the University of Moscou, is dead.

AN OPENING FOR INTERNES IN STATE HOSPITALS.—Lodging and board is offered to young medical graduates, who wish to serve as medical assistants in the various New York State Hospitals for the Insane. No examination is required; application must be made in person to the superintendent of the chosen Hospital, or else, to the Commissioner in Lunacy, at 4 West Fiftieth street, New York City.

SERUM THERAPY is gaining ground in the domain of therapeutics. It is applied to varied diseases (nervous and mental diseases, hysteria, physical debility and chronic auto-infection). At 58, rue Douai, Paris, has been established an Institute called Serumtherapy, and a resident physician is kept busy with this newest method of treatment.

A CASE OF HYSTERICAL OEDEMA OF SEGMENTARY DISPOSITION.—DRS. PIERO GONZALES AND PAOLO PINI: The study is interesting from the standpoint of a differential diagnosis, which the authors consider in detail. Their case presented a sudden onset of an epileptiform attack, which was followed by scattered areas of œdema all over the body. The patient suffered, at the same time, from impaired general and special sensibility. She was cured of the œdema, has had several other attacks of the same disturbance and is well of it at present. The authors suggest that some cases of scleroderma reported to have been cured belong, perhaps, to the class of hysterical troubles of a nature similar to the one here examined. (*Annali di Nevrologia*, Anno XX, fasc. 1.)

From the *American Journal of Insanity*, April, 1902.

1. **ETIOLOGY OF PARESIS.**—DR. ARTHUR W. HURD: Syphilis is the most common factor in the production of paresis; it may be a direct, exciting cause, or an indirect cause,—by devitalizing the system and thereby predisposing it to the ailment; syphilis is not usually the sole cause of the disease: mental stress, overexcitement, dissipation, alcoholism and heredity are generally associate causes; in a relatively small number of cases, mental stress, worry and over-work may be the sole ascertainable causes; traumatism may be the cause in a small number of cases, but syphilis generally underlies as a cause.

2. **THE EARLY DIAGNOSIS OF PARESIS.**—DR. F. X. DER-CUM: It is relatively easy to make a diagnosis of paresis after the initial stage has passed, but it is most important to recognize the existence of the disease at the earliest possible moment; therefore, cases of chronic fatigue,—neurasthenia, should be carefully studied and signs of mental weakness and of degeneration detected when possible.

3. **THE COMPARATIVE FREQUENCY OF GENERAL PARESIS.**—DR. CHARLES G. WAGNER: General paresis constitutes 8.75 per cent. of all cases of insanity; it occurs most frequently between the ages of 30 and 50; the frequency of its occurrence is increasing; men are about 7 times more liable to this disease than are women; the termination of this disease is fatal, its course extending over a period of some 2½ years; it is nearly twice as frequent in occurrence in large cities as it is in the coun-

try; heredity, syphilis, infection and alcoholic excesses are important factors in its production; members of the learned professions,—teachers, musicians, actors, etc., do not seem to be especially predisposed to this disease; intellectual work or any special occupations do not seem to predispose individuals to paresis; but the general cerebral strain with more or less hereditary influence is found to have existed in the majority of cases. Over-work, sexual excesses, alcoholism, irregular habits in sleeping and eating and accidents—as sun-stroke, cerebral traumatism—appear to be the great factor in the production of this disease. In all the recorded cases examined by the author, only one case is said to have made a recovery.

4. TREATMENT OF PARESIS; ITS LIMITATION AND EXPECTATIONS.—DR. EDWARD COWLES: The theories regarding the pathogenesis of general paralysis are various; Dr. Robertson thinks that the vascular changes are the first to manifest themselves; these vascular changes are caused by intestinal bacteria, the products of which attack the vascular walls first; this fact seems to be of clinical importance, as appropriate treatment in due time can arrest the progress of the disease; the limitations in treatment are many at the present day and the treatment must follow the indications furnished by scientific research.

5. HEREDITY—WITH A STUDY OF THE STATISTICS OF THE NEW YORK STATE HOSPITALS.—DR. WILLIAM C. KRAUSS: An exhaustive study of heredities is presented; the latest figures are given here: Percentage showing heredity, exclusive of unascertained, cases, 1899-1900, 36.6; since 1888, 39.7. Percentage showing no hereditary tendency, exclusive of unascertained cases, 1899-1900, 63.3; since 1888, 59.8. Total number of cases admitted, 1899-1900, 1,202; since 1888, 61,257. Esquirol claimed that maternal heredity was three times more common and much more serious than was paternal heredity. Baillarger found, in 453 cases of insanities, maternal heredity 271 times, while paternal heredity occurred 182 times. The reports of the New York State Hospitals show that maternal heredity is increasing rapidly over paternal heredity. In nervous diseases the hereditary influence is also marked; tabulated data are given to this effect.

6. SOME OBSERVATIONS ON THE ELIMINATION OF INDICAN, ACETONE AND DIACETIC ACID IN VARIOUS PSYCHOSES.—DR. ISADOR H. CORIAT: Indican, acetone, aceto-acetic and B oxybutyric acid, when found in large quantities in the urine indicate the existence of an abnormal retrograde metabolism. From the analyses made it appears that: increased indican is found to be a manifestation of catatonic and epileptic stupor, akinetic forms of dementia præcox and general paralysis, in alcoholic depression and in depressed phases of the mani-depressive psychoses. Some unaccountable fluctuations in the amount of indican excreted were found in some cases. It was difficult to determine what effect diet had on the elimination of indican in the urine. The elimination of indican seems to be somewhat greater in condition of stupor than it is in simple inactive conditions. Excretion of indican is diminished in catatonia with excitement, involution melancholias, exhilaration during the course of general paralysis, excitement in dementia præcox and in manic phases of manic-depressive psychoses. This class of cases may be grouped together as hyperkinetic states. Stools, diet and body-weight do not seem to influence the amount of indican excreted in the conditions mentioned. Acetone and diacetic acid are closely related, and the remarks about one apply equally to the other. Acetone was found in all the groups, except in epileptic

stupor. Diacetic acid was present in melancholia, the akinetic conditions of dementia præcox and in general paralysis, also in cases of alcoholic hallucinations with fear. There seems to be no direct parallelism between the various psychoses and the production of these two bodies. The appearance of both acetone and diacetic acid, however, may be looked on as the result of an abnormal metabolism, due to an inanition process. In the manic conditions acetone was detected only once and it is impossible to account for its presence or to know its significance. On the other hand, in one of the cases associated with fear, acetone was absent. Excessive acetonuria in relation to fear was not verified, although Marro claims that such a relation exists. As it has been shown that inanition stands in close relation to the production of acetone and diacetic acid, it seems that auto-intoxication as a factor in producing akinetic conditions may be definitely ruled out.

7. STUDIES IN THE MANIC-DEPRESSIVE INSANITY, WITH REPORT OF AUTOPSIES IN TWO CASES.—DR. STEWART PAT-

ON: Some think that the periodic psychoses are due to hereditary causes, while others (Pilcz) considered traumatism or lesions of the brain as important factors in the causation of these forms of insanity. It is of the greatest importance to study the anatomical changes of the cerebral and spinal tissues. From the two reported autopsies of recurrent psychoses nothing definite can be concluded; in one case, the noted feature was the presence of "fever changes" in the large elements; in the second case, the dura was adherent to the inner table of the skull, over the frontal region; several depressions were noted between the convolutions, in which pockets of fluid were contained between the pia and the arachnoid; there was one such depression over the parietal lobe; the arachnoid was opaque to various degrees in different places; the medullary substance was very soft and the differentiation was poorly marked. Microscopically, there was a slight increase in the neuroglia elements in the cortex; mitotic figures were seen here and there; the nerve cells showed various stages of acute cell-changes; there were no vascular changes and the basal ganglia seemed to be normal.

8. DR. ALLISON: There are some bills before the Legislature, with a view to procuring lawful exclusion of undesirable immigrants (anarchists, defective, etc.)

9. A CASE OF FEIGNED INSANITY.—The defendant was tried for murder; he simulated depressive insanity, but was detected, once, when told to go and sit down near a given window, which he did (he pretended to be in a condition of dementia) and at another time, he was caught transmitting a note to his lawyer. Another prisoner, when questioned about this man, admitted that they both discussed in detail the court proceedings which interested the prisoner here considered.

10. IN THE MANHATTAN STATE HOSPITAL for the Insane, on Ward's Island, the heating of irons in the laundry is done by electricity.

The Journal of Nervous and Mental Disease, May, 1902:.

1. A CASE OF CHOLESTEATOMA OF THE BRAIN.—DR. CHARLES LEWIS ALLEN: A man, about 33 years of age, entered the New Jersey State Hospital, giving a history of having been struck on the head some time previous to his admission there; he had since been apparently insane. He did not speak, appeared to be entirely demented and had, from time to time, epileptiform convulsions until the time of his death, which took place in status epilepticus. No symptomatic record could be obtained. On

the post-mortem examination, no trace of any injury to the skull was found; the dura was not adherent, but the brain seemed to bulge somewhat in the left frontal region. On removing the dura, a somewhat grayish white lustrous mass was noticed protruding beneath the pia arachnoid, in the second left frontal convolution; the diameter of this mass was about one centimetre. On the inner surface of the hemisphere, the corresponding part of the mass, like cooked cauliflower in appearance, had pushed the corpus callosum downward and had indented the convolutions of the opposite hemisphere; this part of the growth was about 4 centimetres in diameter. The growth occupied the greater part of the frontal lobe, was provided with a capsule and measured sagittally 8.5 cm., frontally 5.5 cm., and horizontally 3.7 cm. It seemed to have grown from the lateral ventricle towards the frontal lobe. The ependyma was the apparent origin of the growth.

2. REPORT OF CONDITION OF A MAN THROUGH WHOSE RIGHT CEREBRUM A BULLET PASSED FROM BEFORE BACKWARD, ELEVEN YEARS AGO.—DR. THEODORE DILLER: A boy, 13 years of age, was struck by a bullet that entered the skull, just above the middle of his right eye brow, and made its exit 0.5 cm. to the left of the occipital protuberance. The cicatrices of both wounds are plainly visible now. The accident was followed by unconsciousness that lasted three weeks, at the end of which the patient was unable to utter a single word and he was completely hemiplegic on the left side. The power of speech returned after five weeks, but the paralysis disappeared gradually and incompletely during the course of the following two years; after that period, the motor defects remained stationary. The patient says that an operation was performed on him immediately after the accident, and that some four or five ounces of brain substance and parts of bone were removed. The skull depression measures 13 cm. in its greatest length and 7 cm. in its greatest breadth; it extends from a point about 0.5 above the middle of the superior orbital margin to a point 2 cm. behind the parietal eminence. The man is now 24 years of age and exhibits no mental defects; the left leg is spastic, but he can walk without a cane; all power of motion in the left hand and forearm is absent, but limited movements of the left shoulder can be made; there are marked contractures in the fingers of the left hand, a partial paralysis of the left face and all forms of sensation are greatly diminished on the left side, and entirely absent in the arm and hand; there exists left hemianopsia. The middle Rolandic and parietal regions were mostly involved, and it seems that the sensori-motor area must be located in these regions. The hemianopsia may be due to destruction of the cuneus or to that of the fibres associating it with the optic centres. The extent of injury that the brain can tolerate seems to be marked.

3. REPORT OF A CASE OF FRACTURE OF THE BASE OF THE SKULL FOLLOWED BY MENINGITIS AND ORGANIC HEMIPLEGIA, ASSOCIATED WITH COMA AND CATALEPSY LASTING EIGHTEEN MONTHS.—DR. A. C. BRUSH: An interesting clinical description of a case under the above mentioned heading is given, but as the patient was still alive, no anatomical data were obtained. The cataleptic phenomena in connection with organic lesions here are of great interest.

RICHARD FREIHERR v. KRAFFT-EBING.—A biography of the psychiatrist and a description of his scientific achievements is given in the *Wiener Klinische Rundschau*, March 30, 1902.

PROCEEDINGS OF THE NEUROLOGICAL SOCIETY OF PARIS,
Nov. 11, 1901. Presided over by Prof. Raymond.

1. **CEREBRAL TUMOR WITH AUTOPSY.**—MM. KLIPPEL and JARVIS: A man, 77 years of age, had hemiplegia of the limbs, but the facial muscles unaffected; epileptiform attacks, contractures with abolition of the reflexes, and absence of the ankle clonus; chorea and trophic disturbances; there was œdema of the limbs and ulcers of the left heel. Pulmonary vaso-motor disturbances with hemorrhages. The autopsy revealed the presence of a tumor of the right paracentral lobule.

2. **AKATESIA.**—Dr. HASKOVEC designates by this term a condition, in which it is impossible to remain seated; he reported two such cases, men, who, when seated became most restless, agitated by jerks which threw them out of the chairs; they were perfectly quiet when in the standing posture or when walking. They are neurasthenic subjects; this disease is the counter-form of astasia-abasia.

3. **DEFINITION OF HYSTERIA.**—DR. BABINSKI: Hysteria is a psychic affection, characterized by the fact that the subject affected by it is susceptible to auto-suggestion or to suggestion. The disease is characterized principally, by primary disturbances and secondarily, disturbances are accessory.

4. **MENTAL TORTICOLIS ADDED TO SEMICHOREIFORM MOVEMENTS.**—FEINDEL AND MEIGE: A girl, 18 years of age, with mental debility, has presented, since ten years of age, spasmodic choreiform movements of the right arm. Recently, mental torticollis was added to the old motor disturbances; the patient could counter-act the movement by an antagonistic movement. Treatment during the course of two months rectified the new trouble and ameliorated the choreiform movements of the arm. The mental condition is little developed.

5. **GENERALIZED ANKYLOSIS OF THE SPINAL COLUMN AND ALL THE JOINTS OF THE BODY.**—M. APERTI presented a case in which all the joints were ankylosed. The disease set in suddenly when the patient was three years of age; at that time he had a severe attack of generalized convulsions; after that attack, he was confined to bed during a period of three years. When he was able to leave his bed it was found that he had lost the use of his limbs, as every joint in the body was stiff. The patient is now thirty years of age, and there has been some progressive improvement in the condition of the joints. There exist no muscular alterations, no reflex disturbances, no alteration of the electric reactions nor of the sensibility; the disease, is therefore, not due to any lesion of the central nervous system. It cannot be said that the case is one of chronic rheumatism, as that disease has an entirely different aspect. It is rather a distinct osteo-articular affection, which may be designated by the term *olomelic spondylosis*, implying that all the limbs are involved.

6. **ON A VARIETY OF HYPERTROPHY OF THE LIMBS. MYELOPATHIC INTERSTITIAL DYSTROPHIA.**—M. RAPIN presented a case, a girl, seven years of age; when twenty months of age, she had an attack of fever, which lasted a few days, and this was followed by hypertrophy of the right upper limb; the upper left limb became similarly affected when the child was three years old; there was no febrile manifestation then. The pathogenesis of these dystrophic manifestations of the connective tissue has much in common with the spinal amyotrophias, particularly in infantile paralysis. Indeed, as a consequence of infantile paralysis

is found not only muscular atrophy, but also hypertrophy. Besides the muscular atrophy, fat-cell proliferation has also been observed. A second case, that of a woman thirty years of age, presented congenital cellulocutaneous hypertrophy.

7. **THE TROPHŒDEMAS.**—M. H. MEIGE: Under this term is understood chronic, white, indurated, painless œdema, appearing in scattered areas, and the cause of which is yet unknown. In certain cases, chronic trophœdema is also hereditary.

Regarding the nature and pathogenesis of this disease, the author considers it as a connective tissue dystrophy, similar to the muscular dystrophies, due most probably to impairment of the centres which preside over the development of the connective tissue. The areal distribution of this œdema seems to correspond to the hypothesis of metameric alterations of the nervous centres.

Nosographically, interstitial dystrophy may be classified as congenital, hereditary, family dystrophy, acute and chronic.

8. **CEREBRAL POROSITY.**—M. G. GUILLAIN presented specimens of two cases of *cerebral porosity*. The appearance, resembling gruyere cheese, is due to putrefaction, especially during the warm summer months.

9. **FAMILY MYOPIA.**—M. CESTAN presented two cases of juvenile myopathias that belonged to the same family; the disease affected the four limbs at the onset.

10. **GLYCOSURIA AND ALBUMINURIA OF NERVOUS ORIGIN.**—M. J. ROUX presented a case of syphilitic glycosuria and albuminuria, and was of opinion that the disturbance was of nervous origin.

II. **TICS AND MOTOR DISTURBANCES DURING THE COURSE OF CHRONIC DELIRIUM. THE MUSCULAR SYNDROME AS A PROGNOSTIC SIGN.**—M. DUFOUR presented a case of a woman, 34 years of age, suffering from mental debility; during the last two years she has been subject to delusions of persecution, hallucinations of hearing (verbo-psychomotor) of the general sensibility, genital hallucinations and illusions of sight; mysticism is the basis of the delirium, giving it a peculiar clinical aspect. During the last year, the patient has been subject to tics of the muscles of the neck, upper and lower extremities. These spasms are intermittent and do not seem to be dependent on any delusional conception; they belong to the class of automatic movements, although their complexity is marked. The appearance of such motor disturbances in a patient suffering from delusions of two and one half years' standing should be looked on as an indication of gravity in the prognosis.

Session of December 5, 1901:

I. **CEREBRAL TUMOR IN A CHILD.**—MM. LEONOBLE and AUBINEAU exhibited the brain of a child, 5 years of age, who was bitten by a mad dog. The symptoms that followed were: persistent headache, vomiting, epileptiform attacks, right hemiplegia and nystagmus; there was no disturbance of the general sensibility. The diagnosis of a tumor situated near the chiasma of the optic nerves was made. At the autopsy this was not verified. A voluminous tumor was found occupying the entire left lateral ventricle, the opto-striate nuclei being destroyed; there was also a large, isolated tubercle of the pons. This tubercle was a primary one, as there was no other tubercle lesion in the base of the brain. The infection from the dog bite and the onset of the disease were simply coincident.

2. MYOPATHIA WITH NORMAL ELECTRIC CONTRACTILITY.—

M. BRISSAUD presented a case of a child, who was referred to him with a diagnosis of flaccid chorea, but who was suffering from myopathia of a marked degree; the particular point of interest consisted in the fact that the reflexes were entirely abolished and that galvanic and faradic contractility were entirely intact, presenting an amplitude quite exceptional in similar cases.

M. Huet had occasion to observe two similar old cases of myopathia, in so far as the electric reactions were concerned, except the amplitude; this depends on the degree of the muscular atrophy. It is natural that Dr. Brissaud's case should present such a marked amplitude, because the case is yet of recent standing. Although the electric contractility is generally decreased in myopathia this is not an invariable rule; the contractility may be simply intact in some, decreased in others, or else present the reaction of degeneration.

M. Babinsky was of opinion that the patient walked like one affected with neuritis and that it was a question as to the correctness of the diagnosis of myopathia.

3. FOUR CASES OF HEMORRHAGE OF THE EXTERNAL CAPSULE WITH HEMIANÆSTHESIA.—M. TOUCHE:

Out of eleven cases of hemorrhage of the external capsule, eight presented hemianæsthesia; in the last four cases that came under his observation there were four cases of hemianæsthesia. Hemiplegia with anæsthesia seems to correspond to a hemorrhage in the insulo-temporal angle; the persistency of the hemiplegia is proportionate to that of the hemorrhage.

4. ASSOCIATION OF HYSTERICAL HEMIPLEGIA AND INFANTILE CEREBRAL DIPLEGIA.—M. LAIGNEL-LAVASTINE

presented a patient who had an attack of hysterical hemiplegia added to cerebral diplegia. The hysterical complication of an organic lesion of the nervous system was suspected on account of the presence of strong tendon reflexes, spinal epilepsy with the extension of the toes. The suspicion was verified by the fact that some improvement was obtained by using suggestion; M. Babinski said that hysteria alone never causes exaggeration of the tendon reflexes and spinal epilepsy.

5. CEREBRAL HEMORRHAGE IN DIABETES.—MM. KLIPPEL

and JARVIS gave the history of a diabetic, who was taken suddenly with coma that was followed by hemiplegia and ptosis. He was improved on the following day, and was in his normal condition the day after. The diagnosis of a transitory hemiplegia due to autointoxication was made. The speech became impaired, however, without there being any new attack of coma, and the patient died in a condition of incomplete coma. At the autopsy, a large hemorrhage of the external capsule was found. It is well to be guarded in giving the prognosis of hemiplegia, apparently of benign nature, during the course of diabetes.

6. M. HASKOVEC proposed that an international inquest be made into the matter of marriage among diseased subjects who are apt to transmit their disease to the offspring. The proposition was considered as being rather utopian. A committee will be appointed to consider the value of the proposition.

7. **FRONTAL JACKSONIAN EPILEPSY.**—M. CHIPAUT: Three cases of Jacksonian epilepsy observed by the author seem to indicate that when the lesion lies in the frontal region there are to be found motor and

sensory (stereognostic) alterations of helpful significance, when the foot of the 1st and 2d convolutions are involved.

Prof. Raymond reserved his opinion regarding the localization of the stereognostic and sensory centres.

PROCEEDINGS OF THE SOCIETY OF HYPNOLOGY AND PSYCHOLOGY, Paris, Oct. 15, 1901:

1. **AUTO-SUGGESTION OF VERTIGO AND SUICIDE.**—M. FELIX REGNAULT reported some cases of suicide due to involuntary auto-suggestion. One subject, who suffered from obsessional contemplation of voidness, always experienced a sensation of falling; therefore, everything he did was accompanied by an attempted act to fall, the intensity of the act being in proportion to the vividness of the mental representation.

2. **ON THE WILL POWER.**—M. COSTE DE LAGRAVE said that the act of auto-suggestion is an invaluable aid in the matter of carrying out propositions in life. Dr. Berillon cited numerous cases, showing that auto-suggestion and application of the will power can act on almost all the organic functions; the vaso-motor phenomena depend especially on this suggestion.

3. **A SO-CALLED THOUGHT READER.**—DR. PAUL FAREZ: The mind reader was a native of Salonica, who had performed some successful feats of this art; it was demonstrated that he was nothing more than a clever interpreter of his subject's subconscious movements, using them as conductors. These facts are not new; scientifically, they are based on the same principle as is mental suggestion.

4. **A CASE OF PERIODIC MASTURBATION.**—M. BLOCH reported this case; the attack of this disease is similar to that of dipsomania. M. Jules Voisin said that such cases were incurable. M. Berillon said that one should not make such a grave diagnosis before all available treatment has been exhausted.

5. **A CASE OF VERBAL BLINDNESS.**—M. BERILLON reported this case of a young soldier, who could write, but had lost the ability to read. In another case, that of a child, a similar disturbance was caused by a suggestion of the child's mother. MM. Bellemaniere, Voison and Magnin reported similar cases of inhibition.

HEREDITY AND TWIN BIRTHS.—A woman who gave birth to twins has the following family record: 1, her paternal grandmother twice gave birth to twin children; 2, a grand aunt had two successive twin births; 3, a paternal German cousin gave birth to twins and, finally, the patient's father was one of twin children. On the mother's side, an aunt gave birth to triplets and died of uterine hemorrhage during this confinement (*Progres Medical*, March 1, 1902).

THE SOCIETE MEDICO-PSYCHOLOGIQUE of Paris is fifty years old and celebrated this occasion on the day of its birth,—May 26, 1902. In the afternoon, the celebration was opened by a speech by the President of the Society; M. Motet; a report on the Aubanel prize was followed by M. Arnaud and, finally, Dr. Ritti, the distinguished Secretary of the Society, presented the history of the works of the Society. In the evening, the gala occasion ended up with a banquet.

BOOK REVIEWS.

DIE KOERPERLICHEN ERSCHEINUNGEN DES DELIRIUM TREMENS. KLINISCHE STUDIEN.—DR. AUGUST DOELLKEN, I. Assistentarzt der Psychiatrischen und Nervenlinik. Illustrated. *Verlag von Veit and Co.*, Leipzig, 1901. A classification of the various forms of delirium tremens is given and one form, not generally known, is added,—*delirium tremens sine delirium*. As the title indicates, the delirium alone is absent, while the other characteristics do not differ from those found in this form of disease. The chapter on etiology is interesting, giving the foremost views on the subject. Although some are of opinion that auto-intoxication is the main cause of this disease, others oppose this view; alcohol causes definite lesions and impairment of the cerebral nerve cells, the nutritive supply of the latter is gradually wasted and the clinical manifestations are sufficiently explained by these disturbances. Although not all chronic alcoholists are subject to this delirium, the fact can easily be explained, nevertheless, by the predilection of the alcohol for the weakest organ; the liver, kidneys, brain tissues, etc., may be affected preferably. The blood pressure, cardiac action and the mechanism of the circulation in this disease are considered.

EPILEPSIE. TRAITEMENT, ASSISTANCE ET MEDICINE MEDICO-LEGALE.—PROF. PAUL KOVALEVSKY. *Vigot frères*, 1901, Paris. An exhaustive chapter of 189 pages is devoted to the history of the development of the method and care of the epileptics in various countries and in their individual states. The individual states of the United States are considered in this regard and the interesting incident of Mrs. Ruffner's diplomatic *coup* is related: As she did not succeed, with the presentation of her petition, to impress on the minds of the West Virginia Legislature the urgent necessity of providing suitable quarters for the epileptics, she reappeared before the legislative body the year following, not with a petition, but with an epileptic child; the state of that child was so pitiable that the stern legislators yielded to her request. One hundred pages are devoted to the consideration of the clinical study of the disease, and many valuable points of interest in connection with this disease can be found here. The numerous references are also helpful. Legal medicine plays a prominent part in this study.

EPILEPSIA, EIA LETCHENIE I SOUDEBNO - PSYCHIATRITCHESKOE ZNACHENIE. — PROF. PAUL KOVALEVSKY. *Akinfiiev and Leontiev*, St. Petersburg. The various forms of epilepsy apt to fall under consideration of the jurist are considered at great length, 352 pages being devoted to this subject.

TRANSACTIONS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION, 1901. — A number of interesting contributions to the study of mental diseases are given here; the majority of these articles have been presented in *resumé* form in this Journal.

LE MYSTERE POSTHUME. — Causeries médicales sur la mort et la survie. Li Tai, Docteur en médecine, ancien Major au Chili. 2d edition. *Schleicher Frères*, 1901 Paris. A philosophic analysis of life, death, after-life and the relations of human beings and nations to one another,—all presented in a humoristi-pathetic style. The volume is most readable, as well as instructive. As many subjects of interest are touched on, philosophy, religion, nationality, statesmanship, etc., the author has ample range for the display of his varied knowledge in an inimitable manner of humor and sarcasm, at opportune moments.

DE LA VALEUR CLINIQUE DU CYTODIAGNOSTIC CEPHALO - RACHIDIEN DANS LES CAS DOUTEUX DE PARALYSIE GENERALE PROGRESSIVE.—DR. MAILLARD. Thèse, 1901, Bordeaux. 1.—Syphilis may attack the cerebro-spinal axis at any time during its evolution, without showing any clinical manifestations to this effect; the meningeal alterations thus induced are expressed by the presence of lymphocytosis in the cerebro-spinal fluid; 2.—the cerebro-spinal fluid of pseudo-general paralytics, alcoholists and others, may or may not contain lymphocytes; 3.—the cytodiagnosis is, in itself, not a sufficiently certain test in cases of doubtful general paralysis; this test is also insufficient for the making of a positive diagnosis in the incipient stage of general paralysis; 4.—the cerebro-spinal fluid of juvenile general paralytics is rich in cellular leucocytic elements; the polynuclear elements are more numerous here than are the lymphocytes; 5.—the leucocytosis of the cerebro-spinal fluid, therefore, can only serve as an index to the existence of an irritation of the meninges, without indicating the nature of the irritative process; 6.—the cytodiagnosis of the cerebro-spinal fluid has, therefore, only a relative clinical value.

LE DELIRE D'AUTO-ACCUSATION (Etude medico-legale). Thèse, 1900, Bordeaux. Dr. Pierre Oudard. The delirium of the auto-accusation differs from that of culpability; 1,—in the latter, the patient imagines himself to be culpable, without, however, accusing himself constantly; whereas, in delirium of auto-accusation, he accuses himself, without imagining himself to be culpable. 2,—clinically, the delirium of auto-accusation is found to exist in the following forms of psychopathic affections: melancholia, degeneracy, alcoholism and hysteria; 3.—from a medico-legal standpoint, the author agrees with Professor Regis in the classification of the forms: cases in which patients accuse themselves of crimes which are imaginary; self-accusation of real crimes, but which evidence disproves as having been committed by the accused; self-accusation of having committed a crime, which could have been committed by the individual; marked exaggeration of some crime committed; 4.—in the majority of these cases, the insane accuse themselves of having committed crimes which have never taken place; in order of frequency of self accusation the subjects may be grouped thus: degenerate, alcoholists, melancholiacs, hysterical and infectious delirii; the order of crimes mentioned by these subjects is: infanticide, uxoricide, parricide, fratricide, political and unknown assassinations; then follow thefts, plots, adultery, etc.; the alcoholists accuse themselves most frequently of having committed homicide, coloring the deed in more or less dramatic shades; melancholic women generally accuse themselves of having committed infanticide and the degenerate generally accuse themselves of varied and plausible crimes; commitment to an asylum is generally the outcome of such cases unless liberty is granted.

CONSIDERATIONS PSYCHOLOGIQUES ET MEDICO-PEDAGOGIQUES SUR UN CAS DE DEGENERESCENCE.—

DR. DUSSON. Thèse, 1901, Bordeaux. The great value of this work consists in the thorough study of one individual, who was afflicted with mental degeneracy. The study takes up some 167 pages. An analogy between human subjects and lower animals is shown to exist; psychological study of the young is of great importance if their education is to be properly directed; particularly is this the case when the subject suffers from an unbalanced psychic equilibrium; the most accessible psychic avenues in this subject were those which had any bearing on pleasure or pain; these traits were utilized in the process of re-education, which helped transform him into a more normal being than he was previous to the beginning of the treatment.

BOOKS AND PAMPHLETS RECEIVED.

Dr. Bernard Hollander. MENTAL FUNCTIONS OF THE BRAIN. AN INVESTIGATION INTO THEIR LOCALIZATION AND THEIR MANIFESTATION IN HEALTH AND DISEASE. G. B. Putnam's Sons, New York and London, 1901.

Dr. Joseph E. Winters. THE FOOD FACTORS AS A CAUSE OF HEALTH AND DISEASE DURING CHILDHOOD.

Dr. Harry Friedenwald. THE HISTORY OF THE INVENTION AND OF THE DEVELOPMENT OF THE OPHTHALMOSCOPE.

Dr. Giuseppe Muggia. UN TUMORE DELLA BASE DEL CRANO.

Dr. Antonio D'Ormea. SULLE MODIFICAZIONE DELLA PRESIONE SUB-ARACHNOIDEA E DEI CARATTERI DEL LIQUIDO CEREBRO-SPINALE NELLA EPILESSIA SPERMENTALE CON 18 FIGURE.

Dr. Frank G. Hyde. NOTES ON THE HEBREW INSANE.

Professor Alfredo Niceforo. LA SOCIOLOGIE CRIMINELLE. LECON FAITE A L'UNIVERSITE DE LAUSANNE.

Dr. William B. Noyes. AN INTRODUCTION TO THE PSYCHOLOGICAL STUDY OF BACKWARD CHILDREN.

Dr. Theo. Klingmann. THE POSITION OF THE STUDY OF PSYCHOPATHOLOGY IN THE PATHOLOGICAL DEPARTMENT OF THE MICHIGAN STATE ASYLUMS FOR THE INSANE.

Dr. Theo. Klingmann. A CASE OF MULTIPLE CEREBRO-SPINAL SCLEROSIS OF A SPECIAL ANATOMICAL FORM, WITH A HISTORY OF PRONOUNCED FAMILY DEFECT.

Dr. Theo. Klingmann. A CONTRIBUTION TO THE PATHOLOGY OF THE SO-CALLED FUNCTIONAL NEUROSES.

MM. Paul Serieux and M. F. Farnarier. PARALYSIE GENERALE ET SYPHILIS.

Dr. Bajenoff. OTKRITOJE PISMO DOKTOROU JAKOBIU PO POVODOU EVO KNIGUI "OSNOVI ADMINISTRATIVNOI PSYCHIATRII."

Professor Alexander Netchaëff. ZUR FRAGE UEBER GEDAECHTNISSENTWICKELUNG BEI SCHULKINDER.

Prof. Moritz Benedikt. JURISTISCHE BRIEFE.

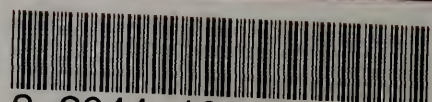
Dr. Theo Klingmann. BIOLOGICAL STUDIES WITH REFERENCE TO PATHOLOGY.

PRELIMINARY ANNOUNCEMENT OF THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY, 1902-3.

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